

Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Barry County

Barry County is located in southwest Missouri along the Arkansas border and between years 2013 to 2017 had an estimated population of 35,398. Barry County ranks 33 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 8.0%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 20.5%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$40,638. The population distribution is as follows:

Figure 1: Barry County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	17,782	50.2		0 – 9 years	4,255	12.0					
Female	17,616	49.8		10 – 14 years	2,364	6.7					
Race				15 – 19 years	2,537	7.2					
Black/African											
American alone	115	0.3		20 – 24 years	1,823	5.2					
White alone	33,126	93.6		25 – 39 years	5,668	16.0					
Other	2,157	6.1		40 – 59 years	9,136	25.8					
Ethnicity				Over 60 years	9,615	27.2					
Hispanic	3,169	9.0		Median Age	43.2 years						
Non-Hispanic	32,229	91.0									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Outco (Weight x 3)	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Barry County ranked 77 (4th quintile) for vulnerability to opioid overdoses. Barry County ranked 93 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Figure 3: Distribution of Final Ranks

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

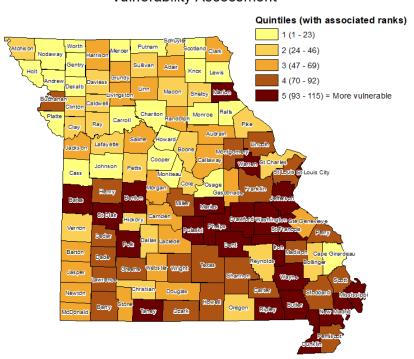


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Barry	14	13.1	8	7.5	126	1.2	26	72.9	150	420.5	14.1
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

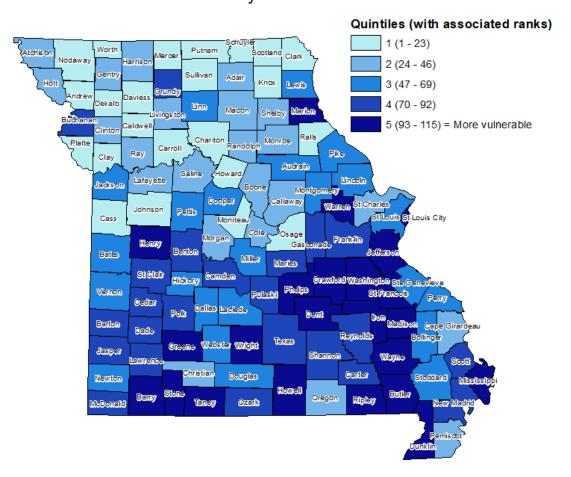


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

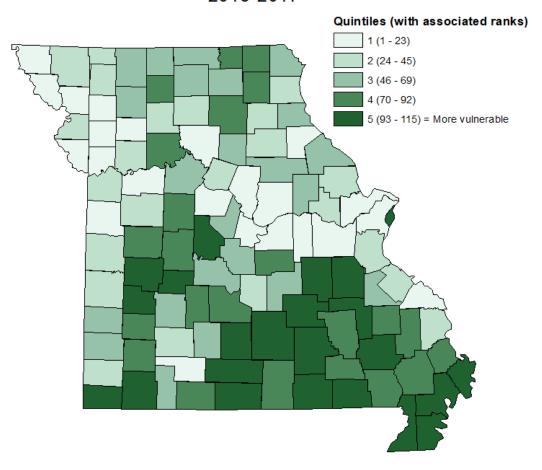
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Barry	14	13.1	8	7.5	126	117.5	44	165.5	126	1.2	42	117.8	150	420.5
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

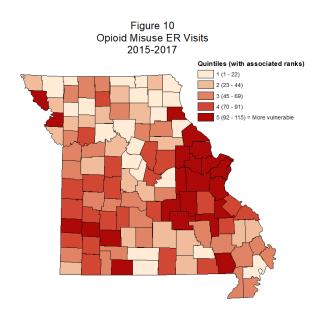
1 1841 0 01	Community										
Barry County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	18.4%	93	5th								
Median Income	\$40,638	80	4th								
Poverty	20.5%	88	4th								
Unemployment	8.0%	95	5th								
Uninsured	16.3%	97	5th								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

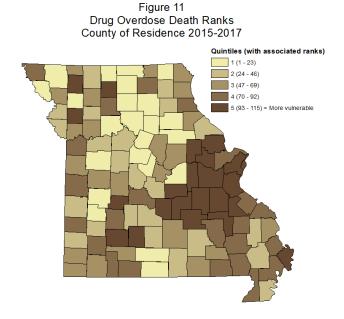


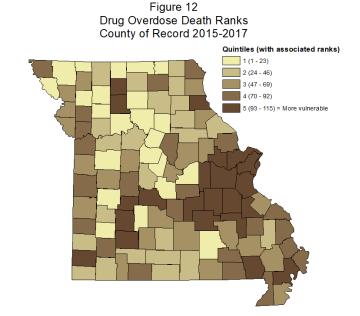
The 2015-2017 number of emergency room visits due to opioid misuse was 126, at a rate of 1.2 visits per 1,000 residents. This is rank 90 (4th quintile) for this indicator.

Barry County ranks 46 (2nd quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Barry County drug overdose deaths was 14, at a rate of 13.1 deaths per 100,000 population.

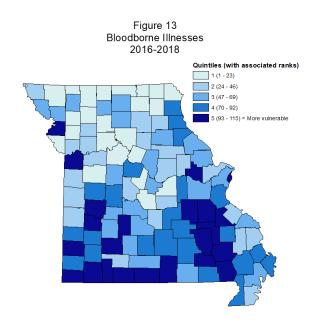
By county of record, the 2015-2017 number of Barry County drug overdose deaths was 8, at a rate of 7.5 deaths per 100,000 population.

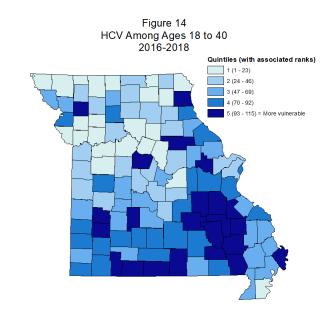




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Barry County totaled 126 for 2016-2018, at a rate of 117.5 cases per 100,000 residents. This is rank 102 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Barry County, 44 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 165.5 cases per 100,000 residents. Barry County ranks 90 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 60 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 167.3 cases per 100,000 residents.

Out of 111 acute and chronic HCV cases in Barry County, 67 (60.4%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 27 (24.3%) of all 2016-2018 HCV cases in Barry County.

AIDS = Acquired Immunodeficiency Syndrome

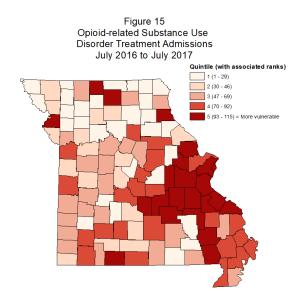
STD = Sexually Transmitted Disease

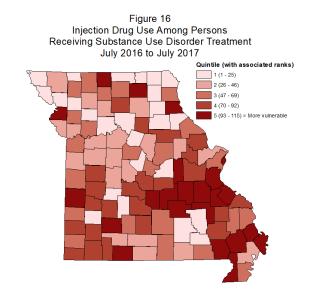
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 26, a rate of 72.9 persons per 100,000 population, placing this county in rank 78 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

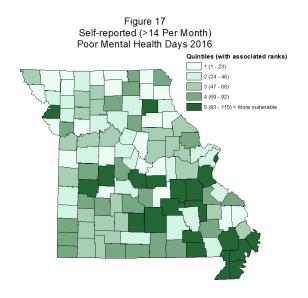
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 42, a rate of 117.8 persons per 100,000 population, placing this county in rank 74 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

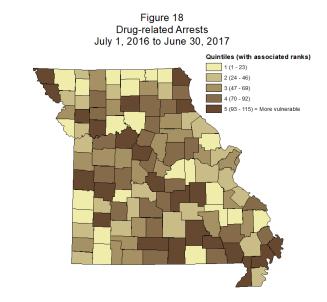




In 2016, 14.1 percent of Barry County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Barry County in rank 61 (3rd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 150 drug-related arrests occurred in Barry County, at a rate of 420.5 arrests per 100,000 population. Barry County ranks 16 (1st quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data.
 Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Barry County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Bates County

Bates County is located along the western central border with Kansas and between years 2013 to 2017 had an estimated population of 16,405. Bates County ranks 66 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 5.2%. This was lower than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 14.3%, which was slightly lower than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$45,605. The population distribution is as follows:

Figure 1: Bates County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	8,010	48.8		0 – 9 years	2,198	13.4					
Female	8,395	51.2		10 – 14 years	1,101	6.7					
Race				15 – 19 years	1,032	6.3					
Black/African											
American alone	205	1.2		20 – 24 years	856	5.2					
White alone	15,726	95.9		25 – 39 years	2,816	17.2					
Other	474	2.9		40 – 59 years	4,157	25.3					
Ethnicity				Over 60 years	4,245	25.9					
Hispanic	340	2.1		Median Age	41.6 years						
Non-Hispanic	16,065	97.9									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
tcomes (3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Outco (Weight x 3)	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Fact × 1)		Poverty†	
munity (Weight		Lack of a High School Education†	
mmunity (Weight		Unemployment†‡	
Ö		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Bates County ranked 95 (5th quintile) for vulnerability to opioid overdoses. Bates County ranked 68 (3rd quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Figure 3: Distribution of Final Ranks

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

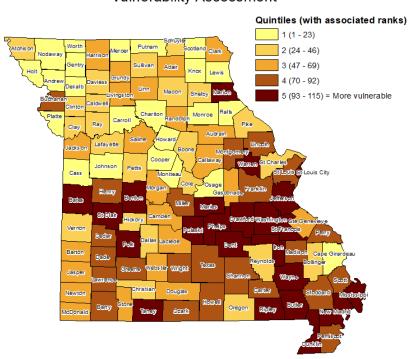


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Bates	11	22.4	8	16.3	42	0.9	13	79.6	435	2,663.2	14.4
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

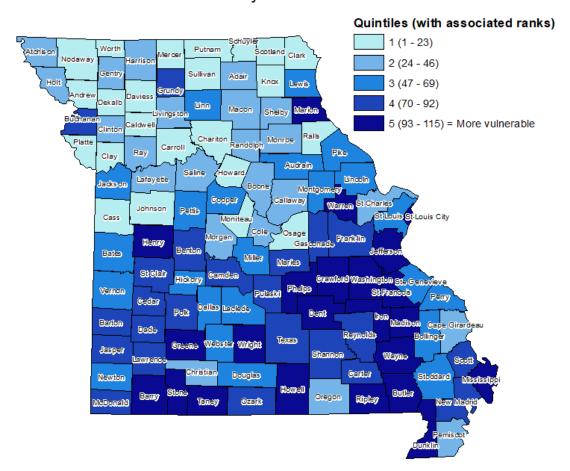


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

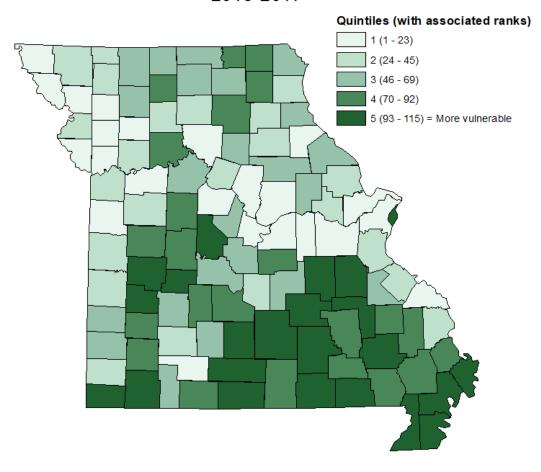
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Bates	11	22.4	8	16.3	30	61.0	6	48.0	42	0.9	15	91.8	435	2,663.2
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

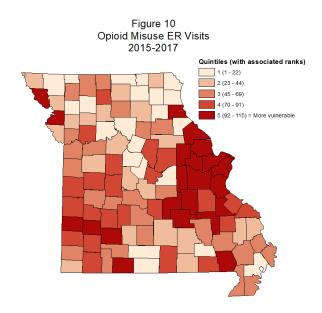
rigare 6. Community ractors										
Bates County										
ACS Data 2013-2017	Rate	Rank	Quintile							
Lack of a High School Education	14.2%	67	3rd							
Median Income	\$45,605	38	2nd							
Poverty	14.3%	32	2nd							
Unemployment	5.2	46	2nd							
Uninsured	10.2	38	2nd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

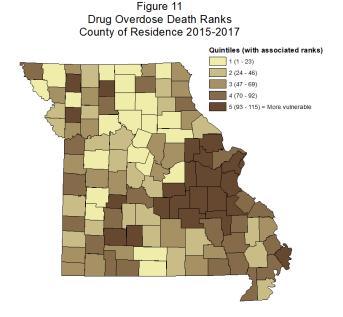


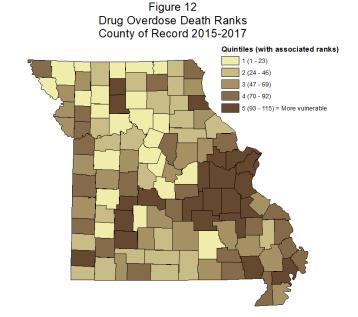
The 2015-2017 number of emergency room visits due to opioid misuse was 42, at a rate of 0.9 per 1,000 residents. This is rank 71 (4th quintile) for this indicator.

Bates County ranks 88 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Bates County drug overdose deaths was 11, at a rate of 22.4 deaths per 100,000 population.

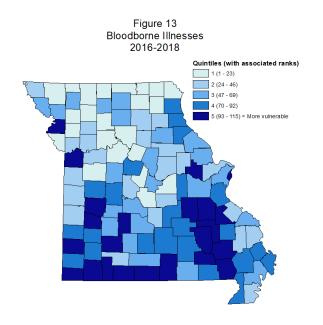
By county of record, the 2015-2017 number of Bates County drug overdose deaths was 8, at a rate of 16.3 deaths per 100,000 population.

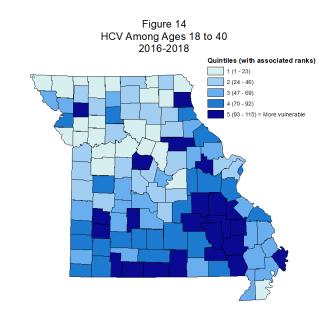




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Bates County totaled 30 for 2016-2018, at a rate of 61.0 cases per 100,000 residents. This is rank 45 (2nd quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Bates County, 6 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 48.0 cases per 100,000 residents. Bates County ranks 27 (2nd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 15 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 92.6 per 100,000 residents.

Out of 25 acute and chronic HCV cases in Bates County, 16 (64.0%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 15 (60.0%) of all 2016-2018 HCV cases in Bates County.

AIDS = Acquired Immunodeficiency Syndrome

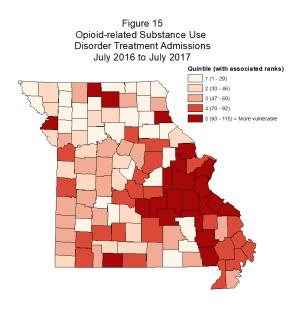
STD = Sexually Transmitted Disease

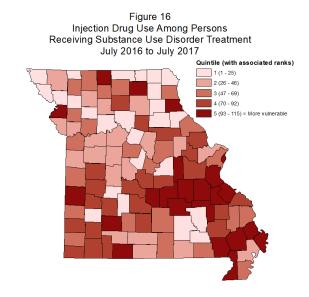
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 13, a rate of 79.6 persons per 100,000 population, placing this county in rank 84 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

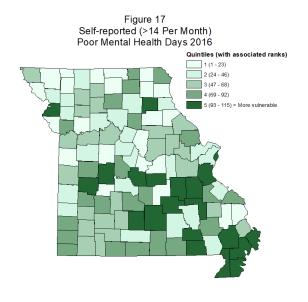
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 15, a rate of 91.8 persons per 100,000 population, placing this county in rank 58 (3rd quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

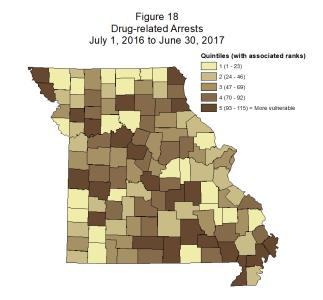




In 2016, 14.4 percent of Bates County adults 18 years of age or older reported more than 14 poor mental health days in a month. This placed Bates County in rank 69 (4th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 435 drug-related arrests occurred in Bates County, at a rate of 2,663.2 per 100,000 population. This placed Bates County in rank 115 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data.
 Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Bates County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Benton County

Benton County is located in west central Missouri and between years 2013 to 2017 had an estimated population of 18,918. Benton County ranks 57 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 9.7%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 18.6%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$35,097. The population distribution is as follows:

Figure 1: Benton County Population 2013-2017 5-Year Estimates

	Demographics – Total Population												
Sex	Count	Percent	Age Group	Count	Percent								
Male	9,308	49.2	0 – 9 years	1,660	8.8								
Female	9,610	50.8	10 – 14 years	1,031	5.4								
Race			15 – 19 years	979	5.2								
Black/African													
American alone	67	0.4	20 – 24 years	690	3.6								
White alone	18,307	96.8	25 – 39 years	2,265	12.0								
Other	544	2.9	40 – 59 years	4,933	26.1								
Ethnicity			Over 60 years	7,360	38.9								
Hispanic	358	1.9	Median Age	53.2 years									
Non-Hispanic	18,560	98.1											

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
tcomes (3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factol x 1)		Poverty†	
munity (Weight		Lack of a High School Education†	
mmunity (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Benton County ranked 98 (5th quintile) for vulnerability to opioid overdoses. Benton County ranked 85 (4th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Figure 3: Distribution of Final Ranks

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

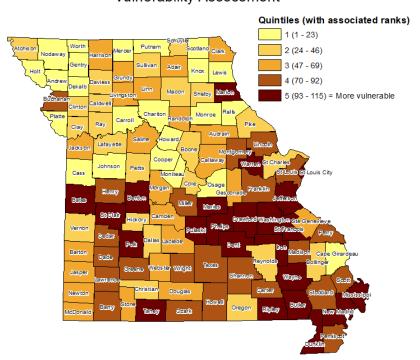


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators												
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days		
Benton	9	15.9	9	15.9	55	1.0	11	57.7	169	886.0	17.1		
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7		

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

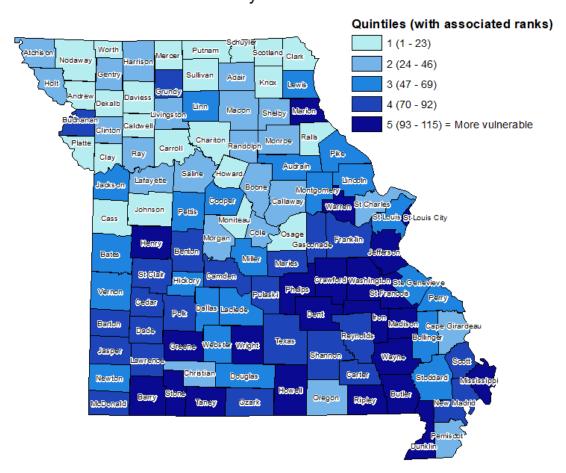


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

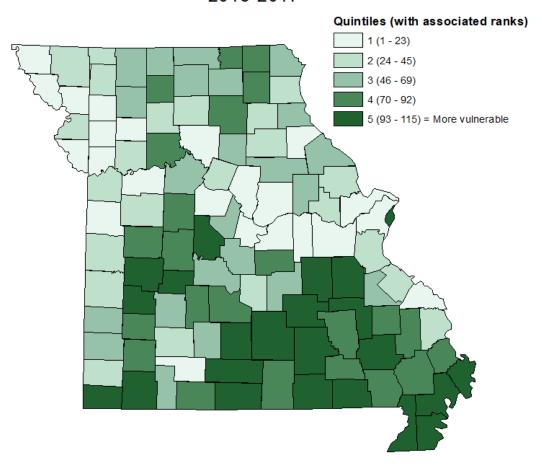
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Benton	9	15.9	9	15.9	55	97.2	11	106.4	55	1.0	8	41.9	169	886.0
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

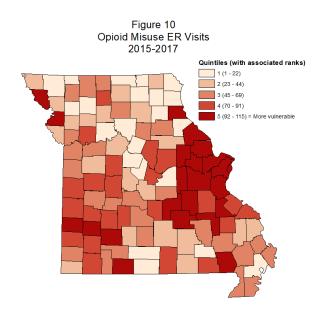
i igui c o.	Community	Tactors									
Benton County											
ACS Data 2013-2017	Rate	Rate Rank									
Lack of a High School Education	15.5%	74	4th								
Median Income	\$35,097	101	5th								
Poverty	18.6%	77	4th								
Unemployment	9.7%	110	5th								
Uninsured	12.7%	65	3rd								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

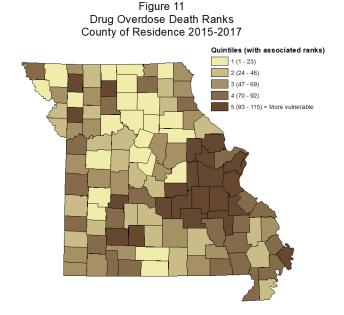


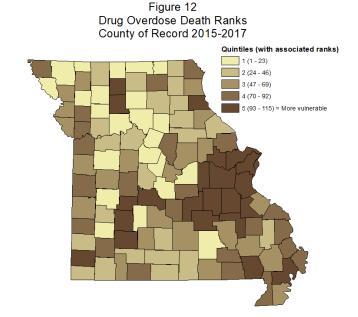
The 2015-2017 number of emergency room visits due to opioid misuse was 55, at a rate of 1.0 visits per 1,000 residents. This is rank 81 (4th quintile) for this indicator.

Benton County ranks 69 (4th quintile) on the 2015-2017 combined drug over death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death

By county of residence, the 2015-2017 number of Benton County drug overdose deaths was 9, at a rate of 15.9 deaths per 100,000 population.

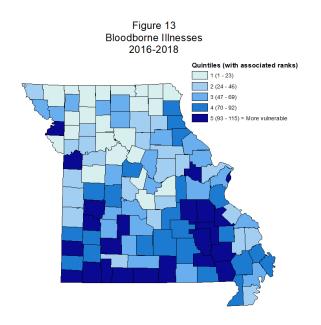
By county of record, the number of Benton County drug overdose deaths was 9, at a rate of 15.9 deaths per 100,000 population.

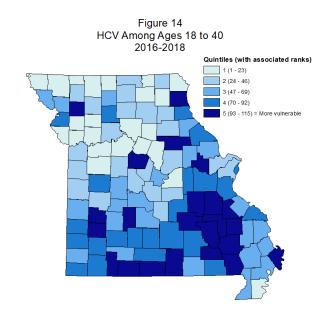




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Benton County totaled 55 in 2016-2018, at a rate of 97.2 cases per 100,000 residents. This is rank 85 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Benton County, 11 new cases of HCV were identified among the 18- to 40-year-old age group in 2016-2018, at a rate of 106.4 cases per 100,000 residents. Benton County ranks 65 (3rd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 39 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 188.7 cases per 100,000 residents.

Out of 53 acute and chronic HCV cases in Benton County, 37 (69.8%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 22 (41.5%) of all 2016-2018 HCV cases in Benton County.

AIDS = Acquired Immunodeficiency Syndrome

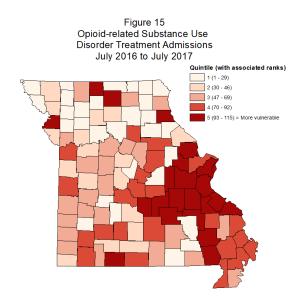
STD = Sexually Transmitted Disease

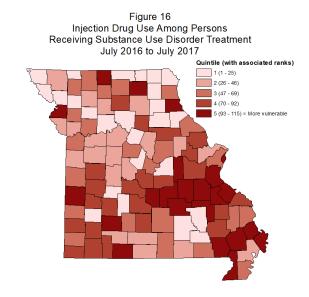
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 11, a rate of 57.7 persons per 100,000 population, placing this county in rank 60 (3rd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

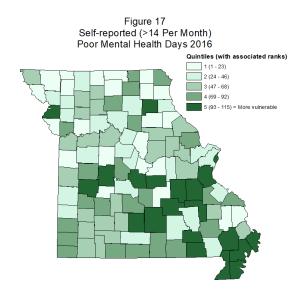
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 8, a rate of 41.9 persons per 100,000 population, placing this county in rank 31 (2nd quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

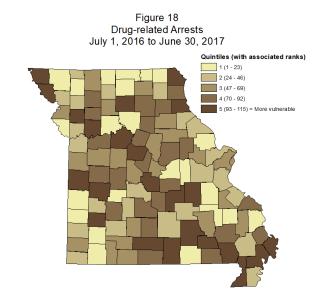




In 2016, 17.1 percent of Benton County adults 18 years of age or older reported more than 14 poor mental health days in a month. This placed Benton County in rank 95 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 169 drug-related arrests occurred in Benton County, at a rate of 886.0 arrests per 100,000 population. This placed Benton County in rank 73 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
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- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
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- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
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- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Benton County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Butler County

Butler County is located in southeast Missouri along the Arkansas border and between years 2013 to 2017 had an estimated population of 42,826. Butler County ranks 26 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 9.2%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 21.6%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$37,878. The population distribution is as follows:

Figure 1: Butler County Population 2013-2017 5-Year Estimates

	Demographics – Total Population												
Sex	Count	Percent		Age Group	Count	Percent							
Male	20,735	48.4		0 – 9 years	5,487	12.8							
Female	22,091	51.6		10 – 14 years	2,784	6.5							
Race				15 – 19 years	2,774	6.5							
Black/African													
American alone	2,305	5.4		20 – 24 years	2,438	5.7							
White alone	38,836	90.7		25 – 39 years	7,824	18.3							
Other	1,685	3.9		40 – 59 years	11,125	26.0							
Ethnicity				Over 60 years	10,394	24.3							
Hispanic	860	2.0		Median Age	40.3 years								
Non-Hispanic	41,966	98.0											

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes nt x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles.
In the Missouri vulnerability assessments, Butler County ranked 103
(5th quintile) for vulnerability to opioid overdoses. Butler County
ranked 113 (5th quintile) for vulnerability to bloodborne infections. In
the Missouri assessments, counties in the fifth quintile are considered
to be more vulnerable. Please note that Figure 3 shows the
distribution when no ties occur. When a tie occurs on a break point, a
shift in the distribution may occur.

•											
Final Ranks	Quintile Points	Vulnerability Level									
1-23	1										
24-46	2										
47-69	3										
70-92	4										
93-115	5	More vulnerable									

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

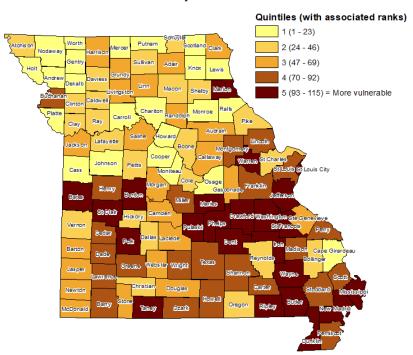


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators												
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days		
Butler	23	17.9	27	21.0	155	1.2	62	145.3	515	1,207.1	11.3		
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7		

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

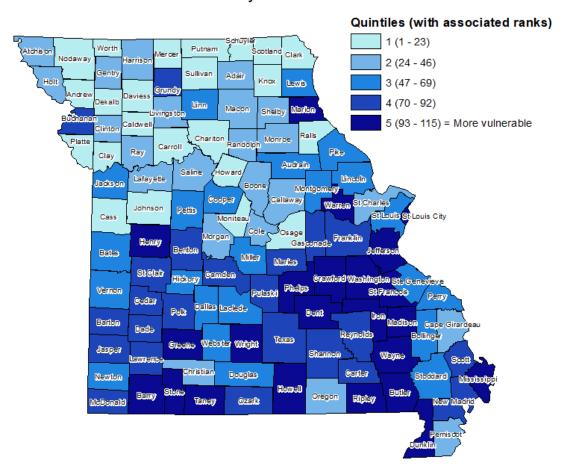


Figure 7: Individual Outcome Indicators

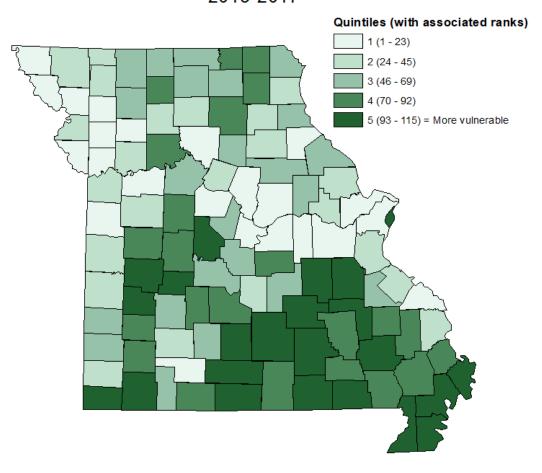
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Butler	23	17.9	27	21.0	240	187.0	75	215.0	155	1.2	103	241.4	515	1,207.1
Missouri	3,783	20.7	3,867	21.1	17,612	96.3	5,527	99.9	25,959	4.3	6,672	109.1	43,232	707.2

Figure 8: Community Factors

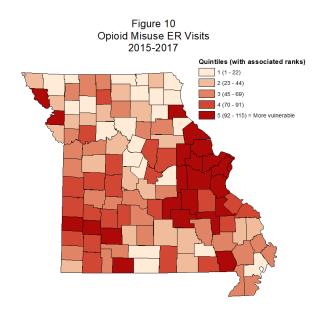
rigure 6. Community ractors									
Butler County									
ACS Data 2013-2017 Rate Rank Quintile									
Lack of a High School Education	16.5%	87	4th						
Median Income	\$37,878	91	4th						
Poverty	21.6%	95	5th						
Unemployment	9.2%	105	5th						
Uninsured	12.3%	60	3rd						

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators



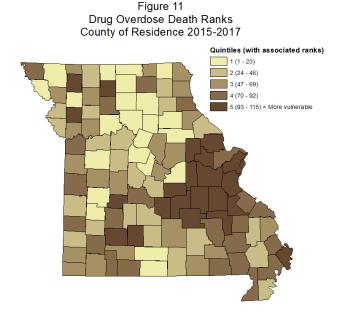
The 2015-2017 number of emergency room visits due to opioid misuse was 155, at a rate of 1.2 visits per 1,000 residents. This is rank 94 (5th quintile) for this indicator.

Butler County ranks 88 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Butler County drug overdose deaths was 23, at a rate of 17.9 deaths per 100,000 population.

By county of record, the 2015-2017 number of Butler County drug overdose deaths was 27, at a rate of 21.0 deaths per 100,000 population.

Figure 12



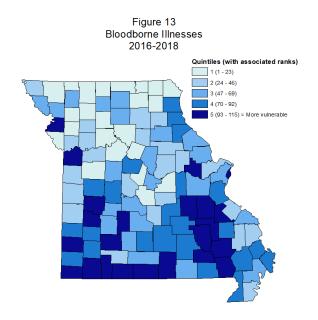
Drug Overdose Death Ranks
County of Record 2015-2017

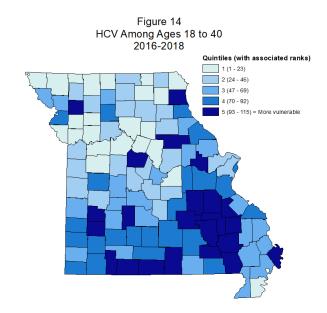
Quintiles (with associated ranks)

1 (1-23)
2 (24-46)
3 (47-69)
4 (70-92)
5 (93-115) = More vulnerable

New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Butler County totaled 240 for 2016-2018, at a rate of 187.0 cases per 100,000 residents. This is rank 114 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Butler County, 75 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 215.0 cases per 100,000 residents. Butler County ranks 104 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 141 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 341.3 cases per 100,000 residents.

Out of 226 acute and chronic HCV cases in Butler County, 136 (60.2%) were male. For the cases in which race was identified, 8 (7.8%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 124 (54.9%) of all 2016-2018 HCV cases in Butler County.

AIDS = Acquired Immunodeficiency Syndrome

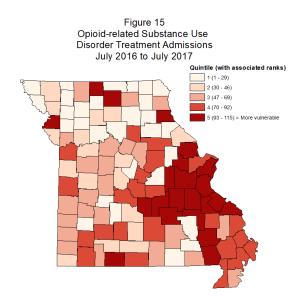
STD = Sexually Transmitted Disease

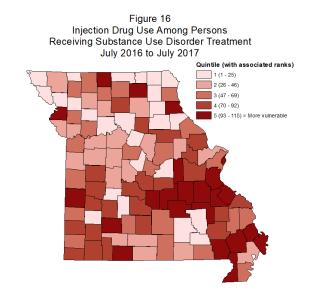
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 62, a rate of 145.3 persons per 100,000 population, placing this county in rank 103 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

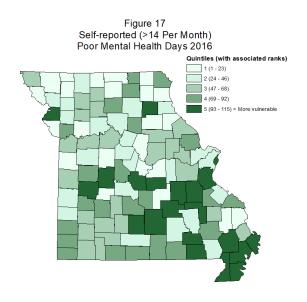
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 103, a rate of 241.4 persons per 100,000 population, placing this county in rank 111 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

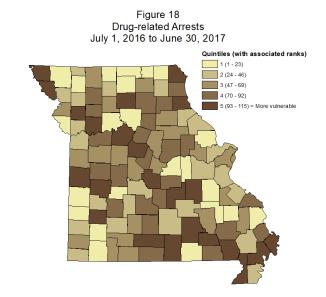




In 2016, 11.3 percent of Butler County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Butler County in rank 25 (2nd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 515 drug-related arrests occurred in Butler County, at a rate of 1,207.1 arrests per 100,000 population. Butler County ranks 94 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data.
 Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Butler County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Crawford County

Crawford County is located in east-central Missouri and between years 2013 to 2017 had an estimated population of 24,387. Crawford County ranks 47 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 11.6%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 20.0%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$37,171. The population distribution is as follows:

Figure 1: Crawford County Population 2013-2017 5-Year Estimates

Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent				
Male	12,030	49.3		0 – 9 years	3,067	12.6				
Female	12,357	50.7		10 – 14 years	1,602	6.6				
Race				15 – 19 years	1,527	6.3				
Black/African										
American alone	64	0.3		20 – 24 years	1,331	5.5				
White alone	23,615	96.8		25 – 39 years	4,159	17.1				
Other	708	2.9		40 – 59 years	6,748	27.7				
Ethnicity				Over 60 years	5,953	24.4				
Hispanic	459	1.9		Median Age	41.6 years					
Non-Hispanic	23,928	98.1								

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡	
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Crawford County ranked 115 (5th quintile) for vulnerability to opioid overdoses. Crawford County ranked 115 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Figure 3: Distribution of Final Ranks

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

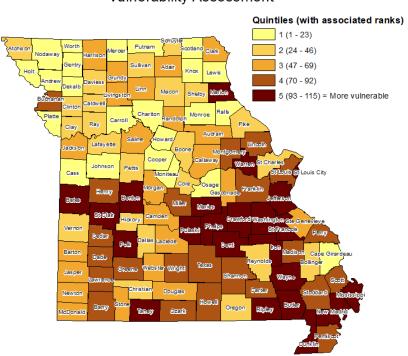


Figure 5: Individual Outcome Indicators

Opioid Overdose Vulnerability Assessment Indicators											
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Crawford	24	32.9	28	38.4	136	1.9	53	219.9	500	2,074.5	18.3
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

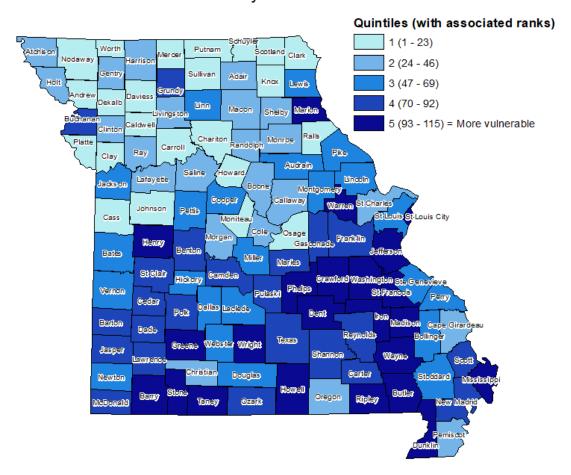


Figure 7: Individual Outcome Indicators

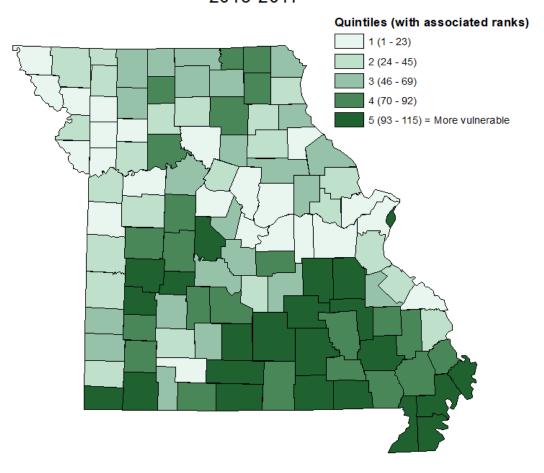
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Crawford	24	32.9	28	38.4	123	168.7	66	352.8	136	1.9	44	182.6	500	2,074.5
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

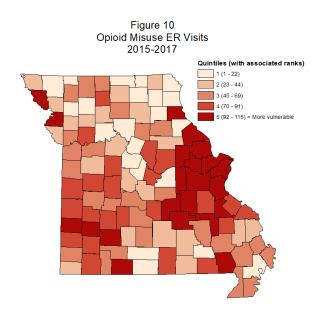
1.84.6 6. 66									
Crawford County									
ACS Data 2013-2017 Rate Rank Quintile									
Lack of a High School Education	23.3%	110	5th						
Median Income	\$37,171	95	5th						
Poverty	20.0%	83	4th						
Unemployment	11.6%	115	5th						
Uninsured	16.6%	100	5th						

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

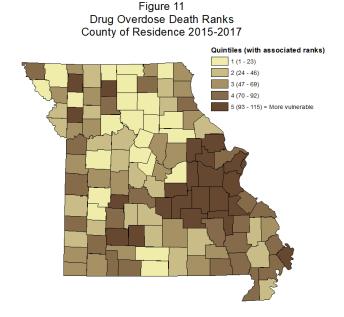


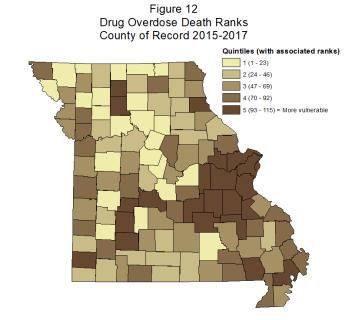
The 2015-2017 number of emergency room visits due to opioid misuse was 136, at a rate of 1.9 per 1,000 residents. This is rank 108 (5th quintile) for this indicator.

Crawford County ranks 113 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Crawford County drug overdose deaths 24, at a rate of 32.9 deaths per 100,000 population.

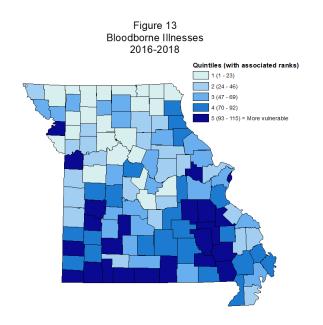
By county of record, the 2015-2017 number of Crawford County drug overdose deaths was 28, at a rate of 38.4 per 100,000 population.

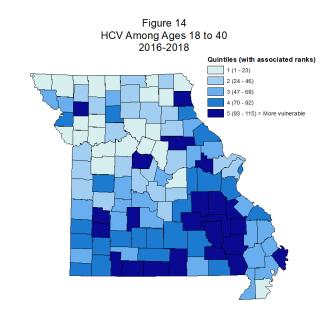




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Crawford County totaled 123 for 2016-2018, at a rate of 168.7 per 100,000 residents. This is rank 112 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Crawford County, 66 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 352.8 per 100,000 residents. Crawford County ranks 113 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 39 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 159.3 per 100,000 residents.

Out of 117 acute and chronic HCV cases in Crawford County, 55 (47.0%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 53 (45.3%) of all 2016-2018 HCV cases in Crawford County.

AIDS = Acquired Immunodeficiency Syndrome

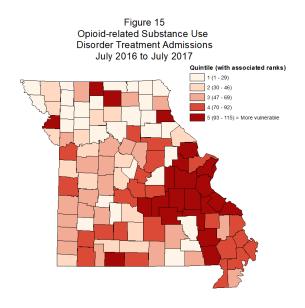
STD = Sexually Transmitted Disease

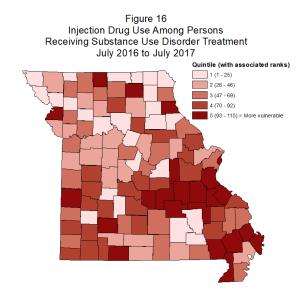
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 53, a rate of 219.9 persons per 100,000 population, placing this county in rank 111 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

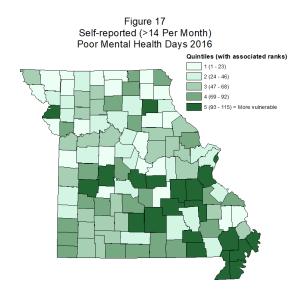
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 44, a rate of 182.6 persons per 100,000 population, placing this county in rank 103 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

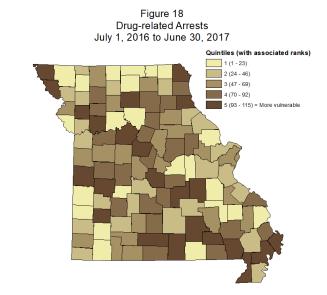




In 2016, 18.3 percent of Crawford County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Crawford County in rank 101 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 500 drug-related arrests occurred in Crawford County, at a rate of 2,074.5 per 100,000 population. This placed Crawford County in rank 112 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
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- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Crawford County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Dent County

Dent County is located in south central Missouri and between years 2013 to 2017 had an estimated population of 15,566. Dent County ranks 68 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 7.3%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 20.8%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$38,829. The population distribution is as follows:

Figure 1: Dent County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent	Age Gr	oup	Count	Percent					
Male	7,774	49.9	0 – 9 years		1,930	12.4					
Female	7,792	50.1	10 – 14 yea	rs	986	6.3					
Race			15 – 19 yea	rs	1,005	6.5					
Black/African											
American alone	77	0.5	20 – 24 yea	rs	692	4.4					
White alone	14,941	96.0	25 – 39 yea	rs	2,459	15.8					
Other	548	3.5	40 – 59 yea	rs	4,172	26.8					
Ethnicity			Over 60 yea	ırs	4,322	27.8					
Hispanic	249	1.6	Median	Age	44.1 years						
Non-Hispanic	15,317	98.4									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
tcomes (3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
tors		Median Income†‡	
1) ac		Poverty†	
nmunity Fa (Weight x		Lack of a High School Education†	
mmu (We		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Dent County ranked 112 (5th quintile) for vulnerability to opioid overdoses. Dent County ranked 108 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Figure 3: Distribution of Final Ranks

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

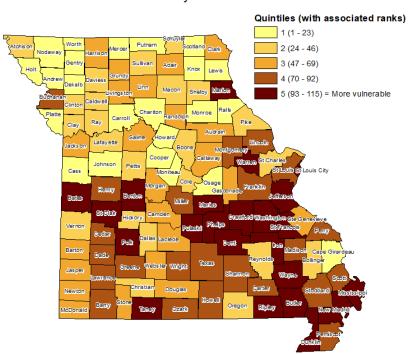


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators											
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days	
Dent	11	23.7	10	21.5	73	1.6	37	239.0	83	536.2	19.6	
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7	

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

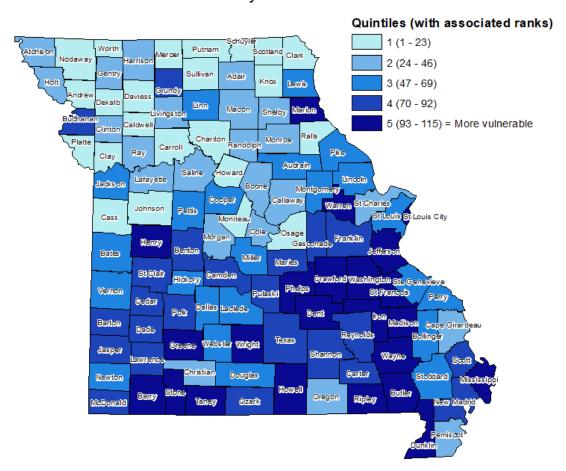


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

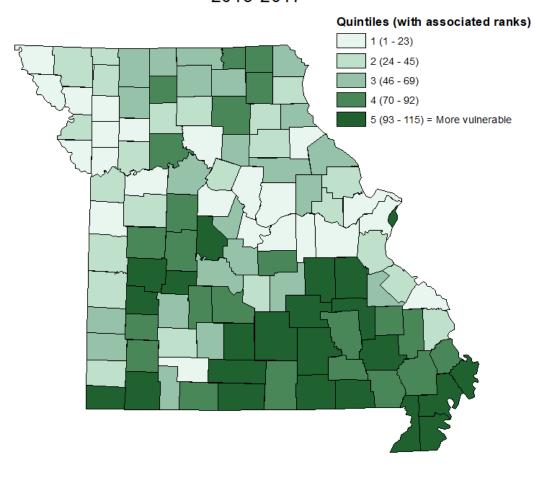
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Dent	11	23.7	10	21.5	43	92.6	24	215.7	73	1.6	47	303.6	83	536.2
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

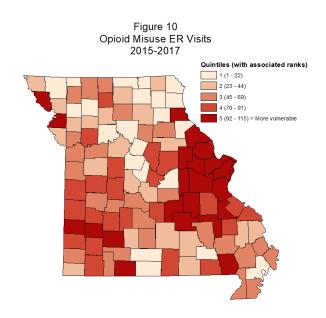
i igui e o.	Community	Tactors								
Dent County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	20.4%	102	5th							
Median Income	\$38,829	88	4th							
Poverty	20.8%	91	4th							
Unemployment	7.3%	86	4th							
Uninsured	18.2%	106	5th							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators



The 2015-2017 number of emergency room visits due to opioid misuse was 73, at a rate of 1.6 per 1,000 residents. This is rank 103 (5th quintile) for this indicator.

Dent County ranks 100 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Dent County drug overdose deaths was 11, at a rate of 23.7 per 100,000 population.

By county of record, the 2015-2017 number of Dent County drug overdose deaths was 10, at a rate of 21.5 deaths per 100,000 population.

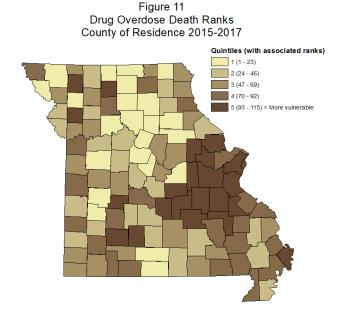


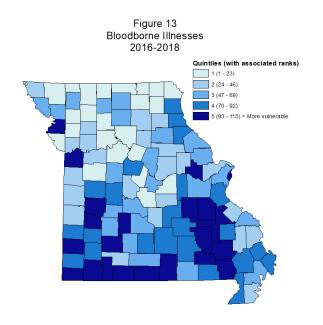
Figure 12
Drug Overdose Death Ranks
County of Record 2015-2017

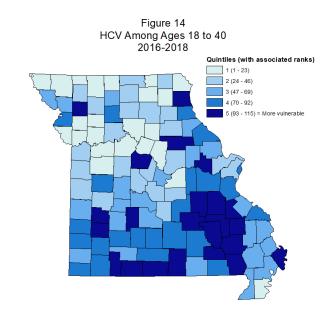
Quintiles (with associated ranks)

1 (1-23)
2 (24-46)
3 (47-69)
4 (70-92)
5 (93-115) = More vulnerable

New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV) for Dent County totaled 43 for 2016-2018, at a rate of 92.6 cases per 100,000 residents. This is rank 81 (4th quintile) for this indicator.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Dent County, 24 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 215.7 per 100,000 residents. Dent County ranks 106 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 16 new cases identified in this age group, at a rate of 102.6 cases per 100,000 residents.

Out of 42 acute and chronic HCV cases in Dent County, 19 (45.2%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 14 (33.3%) of all 2016-2018 HCV cases in Dent County.

AIDS = Acquired Immunodeficiency Syndrome

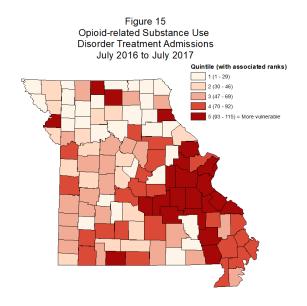
STD = Sexually Transmitted Disease

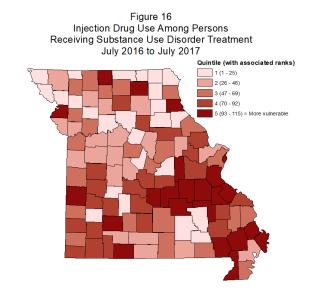
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 37, a rate of 239.0 persons per 100,000 population, placing this county in rank 112 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

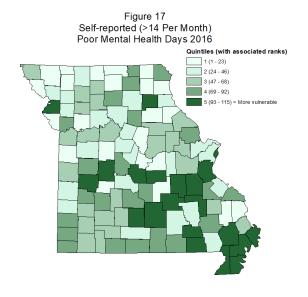
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 47, a rate of 303.6 per 100,000 population, placing this county in rank 113 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

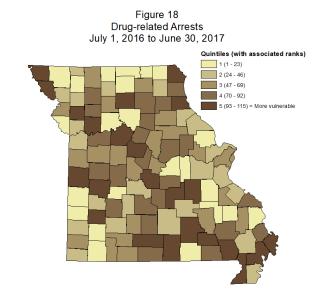




In 2016, 19.6 percent of Dent County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Dent County in rank 108 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 83 drug-related arrests occurred in Dent County, at a rate of 536.2 arrests per 100,000 population. This placed Dent County in rank 32 (2nd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Dent County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Dunklin County

Dunklin County is located in the southeast bootheel region of Missouri along the Arkansas border and between years 2013 to 2017 had an estimated population of 30,905. Dunklin County ranks 38 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.9%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 26.6%, which was higher than the statewide poverty rate of 14.6%. The median income of the county was \$32,348. The population distribution is as follows:

Figure 1: Dunklin County Population 2013-2017 5-Year Estimates

	Demographics – Total Population											
Sex	Count	Percent		Age Group	Count	Percent						
Male	14,856	48.1		0 – 9 years	4,328	14.0						
Female	16,049	51.9		10 – 14 years	2,321	7.5						
Race				15 – 19 years	2,261	7.3						
Black/African												
American alone	3,003	9.7		20 – 24 years	1,654	5.4						
White alone	26,118	84.5		25 – 39 years	5,042	16.3						
Other	1,784	5.8		40 – 59 years	8,059	26.1						
Ethnicity				Over 60 years	7,240	23.4						
Hispanic	1,966	6.4		Median Age	39.4 years							
Non-Hispanic	28,939	93.6										

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Dunklin County ranked 109 (5th quintile) for vulnerability to opioid overdoses. Dunklin County ranked 103 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

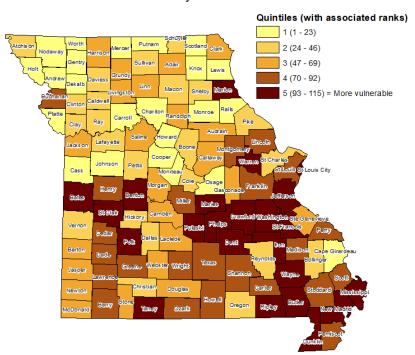


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Dunklin	17	18.6	17	18.6	63	0.7	20	66.4	381	1,265.0	19.1
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

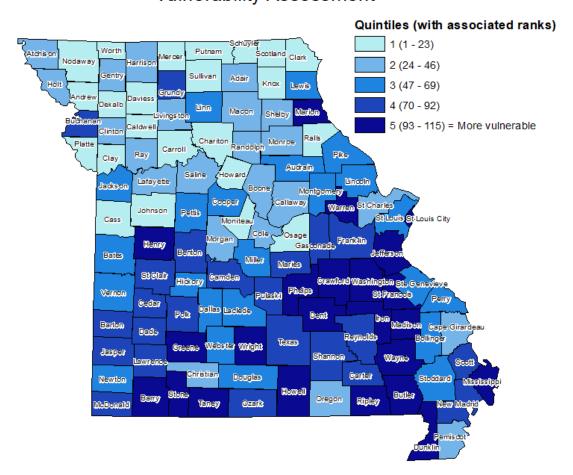


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

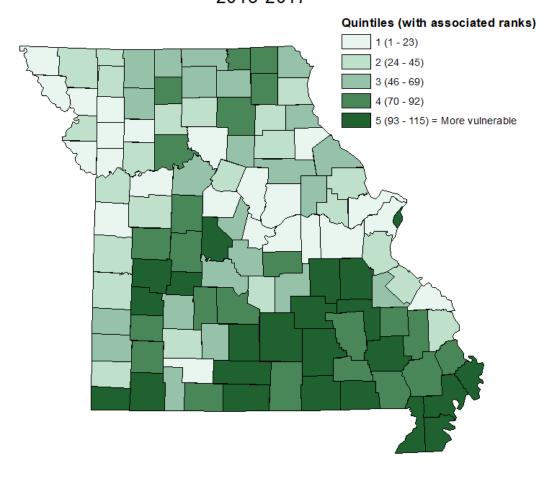
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Dunklin	17	18.6	17	18.6	77	84.1	21	88.4	63	0.7	57	189.2	381	1,265.0
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

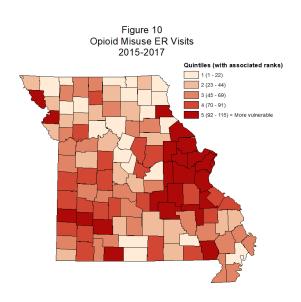
rigate of community ractors											
Dunklin County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	25.7%	115	5th								
Median Income	\$32,348	110	5th								
Poverty	26.6	111	5th								
Unemployment	6.9	78	4th								
Uninsured	15.1%	90	4th								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

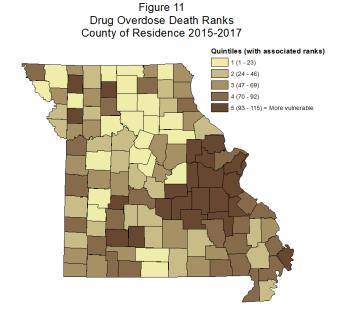


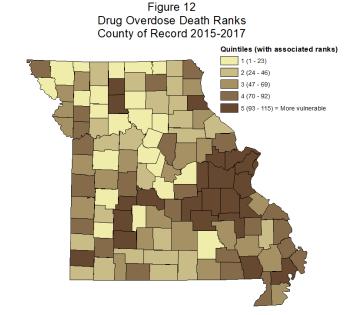
The 2015-2017 number of emergency room visits due to opioid misuse was 63, at a rate of 0.7 visits per 1,000 residents. This is rank 53 (3rd quintile) for this indicator.

Dunklin County ranks 84 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Dunklin County drug overdose deaths was 17, at a rate of 18.6 deaths per 100,000 population.

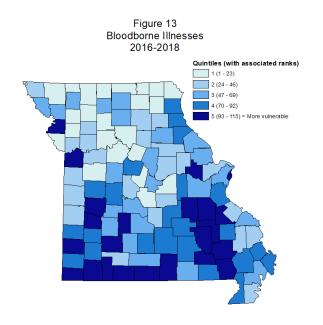
By county of record, the 2015-2017 number of Dunklin County drug overdose deaths was 17, at a rate of 18.6 deaths per 100,000 population.

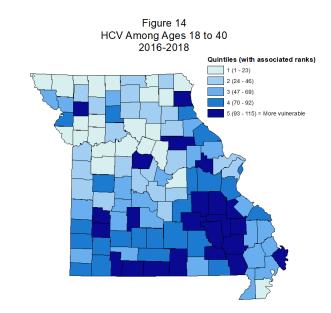




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Dunklin County totaled 77 new cases for 2016-2018, at a rate of 84.1 cases per 100,000 residents. This is rank 72 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Dunklin County, 21 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 88.4 cases per 100,000 residents. Dunklin County ranks 56 (3rd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 45 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 155.3 cases per 100,000 residents.

Out of 69 acute and chronic HCV cases in Dunklin County, 39 (56.5%) were male. For the cases in which race was identified, <5 (<11.9%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 27 (39.1%) of all 2016-2018 HCV cases in Dunklin County.

AIDS = Acquired Immunodeficiency Syndrome

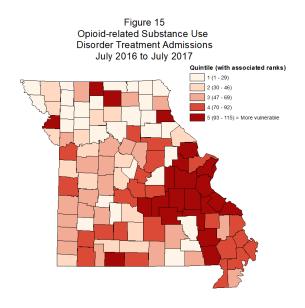
STD = Sexually Transmitted Disease

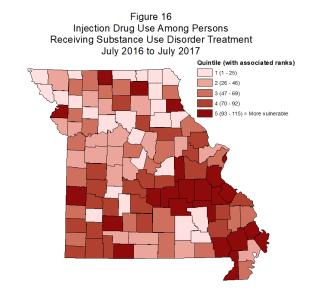
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

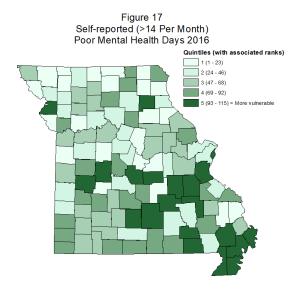
The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 20, a rate of 66.4 persons per 100,000 population, placing this county in rank 70 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 57, a rate of 189.2 persons per 100,000 population, placing this county in rank 106 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

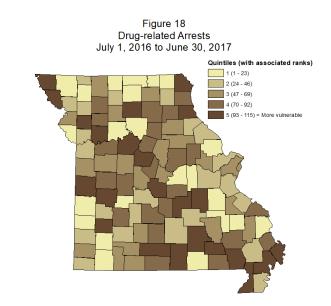




In 2016, 19.1 percent of Dunklin County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Dunklin County in rank 105 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.



Between July 1, 2016 and June 30, 2017, a total of 381 drug-related arrests occurred in Dunklin County, at a rate of 1,265.0 arrests per 100,000 population. This placed Dunklin County in rank 101 (5th quintile) for this indicator, which was used in both assessments.



References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data.
 Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADA/Indicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Dunklin County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Greene County

Greene County is located in southwest Missouri and between years 2013 to 2017 had an estimated population of 286,759. Greene County ranks 5 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 5.0%. This was lower than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 18.5%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$43,175. The population distribution is as follows:

Figure 1: Greene County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent	Count	Percent							
Male	139,733	48.7	0 – 9 ye	ears	34,008	11.9					
Female	147,026	51.3	10 – 14	l years	16,654	5.8					
Race			15 – 19	years	19,030	6.6					
Black/African				-							
American alone	9,408	3.3	20 – 24	l years	30,528	10.6					
White alone	259,407	90.5	25 – 39	years	57,046	19.9					
Other	17,944	6.3	40 – 59	years	68,505	23.9					
Ethnicity			Over 60	0 years	60,988	21.3					
Hispanic	10,061	3.5	Me	edian Age	35.7 years						
Non-Hispanic	276,698	96.5									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

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	Opioid Overdose	Both	Bloodborne Infection
Outcomes nt x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡	
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
vipul		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
nity ight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Greene County ranked 91 (4th quintile) for vulnerability to opioid overdoses. Greene County ranked 100 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

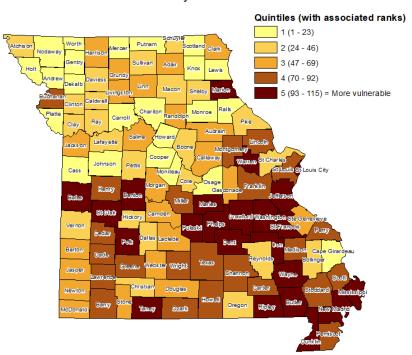


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Greene	244	28.2	298	34.4	1,229	1.4	272	93.9	1,819	627.7	14.1
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

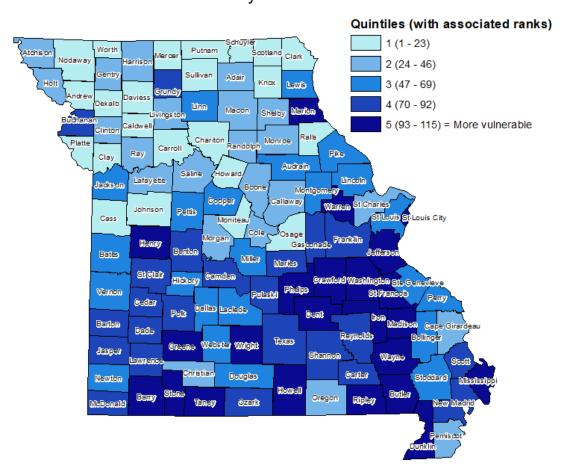


Figure 7: Individual Outcome Indicators

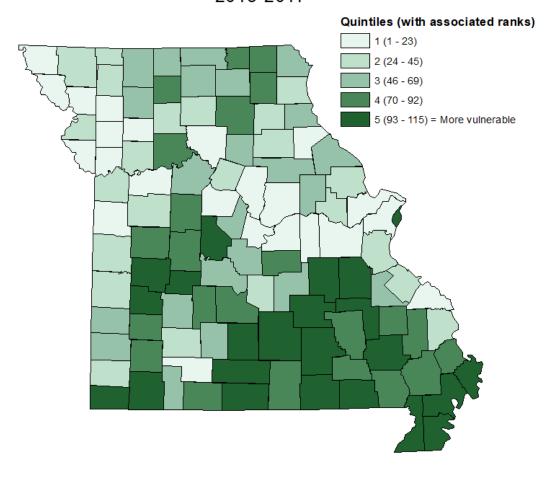
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Greene	244	28.2	298	34.4	1,169	134.9	444	145.8	1,229	1.4	443	152.9	1,819	627.7
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

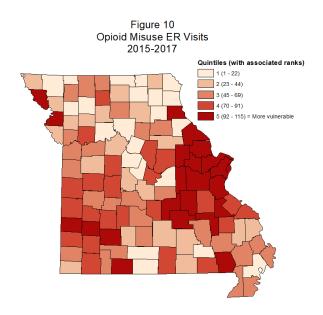
rigui e o.	Figure 8. Community Factors									
Greene County										
ACS Data 2013-2017	Rate	Rank	Quintile							
Lack of a High School Education	8.5%	11	1st							
Median Income	\$43,175	55	3rd							
Poverty	18.5%	76	4th							
Unemployment	5.0%	41	2nd							
Uninsured	11.7%	53	3rd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

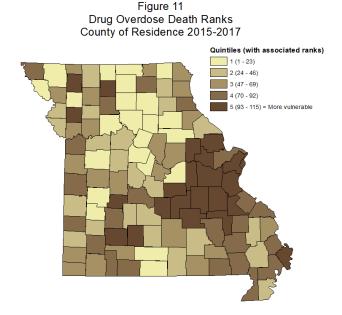


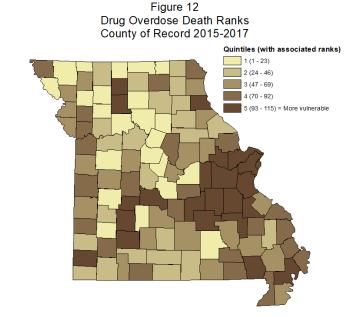
The 2015-2017 number of emergency room visits due to opioid misuse was 1,229, at a rate of 1.4 visits per 1,000 residents. This is rank 99 (5th quintile) for this indicator.

Greene County ranks 111 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Greene County drug overdose deaths was 244, at a rate of 28.2 per 100,000 population.

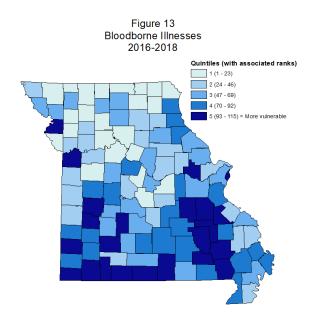
By county of record, the 2015-2017 number of Greene County drug overdose deaths was 298, at a rate of 34.4 deaths per 100,000 population.

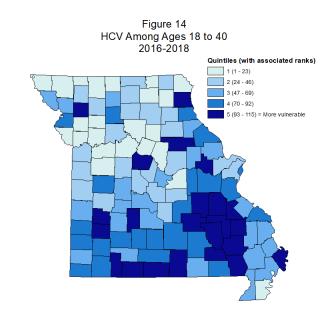




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Greene County totaled 1,169 for 2016-2018, at a rate of 134.9 cases per 100,000 residents. This is rank 104 (5th quintile) for this bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Greene County 444 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 145.8 cases per 100,000 residents. Greene County ranks 82 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 540 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 214.4 cases per 100,000 residents.

Out of 1,043 acute and chronic HCV cases in Greene County, 695 (66.6%) were male. For the cases in which race was identified, 37 (5.6%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 378 (36.2%) of all 2016-2018 HCV cases in Greene County.

AIDS = Acquired Immunodeficiency Syndrome

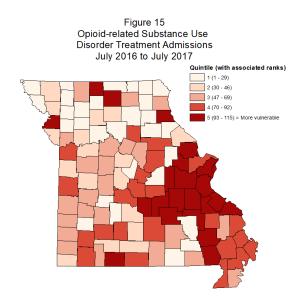
STD = Sexually Transmitted Disease

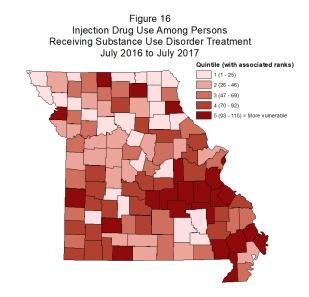
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 272, a rate of 93.9 persons per 100,000 population, placing this county in rank 88 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

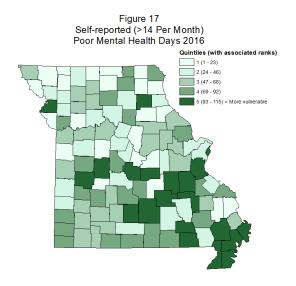
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 444, a rate of 145.8 persons per 100,000 population, placing this county in rank 96 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

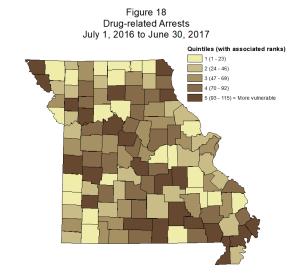




In 2016, 14.1 percent of Greene County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Greene County in rank 61 (3rd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 1,819 drug-related arrests occurred in Greene County, at a rate of 627.7 per 100,000. This placed Greene County in rank 46 (2nd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
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- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Greene County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Henry County

Henry County is located in western Missouri and between years 2013 to 2017 had an estimated population of 21,834. Henry County ranks 52 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.7%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 21.2%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$41,089. The population distribution is as follows:

Figure 1: Henry County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	10,783	49.4		0 – 9 years	2,567	11.8					
Female	11,051	50.6		10 – 14 years	1,458	6.7					
Race				15 – 19 years	1,236	5.7					
Black/African											
American alone	317	1.5		20 – 24 years	1,044	4.8					
White alone	20,900	95.7		25 – 39 years	3,722	17.0					
Other	617	2.8		40 – 59 years	5,849	26.8					
Ethnicity				Over 60 years	5,958	27.3					
Hispanic	486	2.2		Median Age	44.0 years						
Non-Hispanic	21,348	97.8									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Henry County ranked 87 (4th quintile) for vulnerability to opioid overdoses. Henry County ranked 94 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

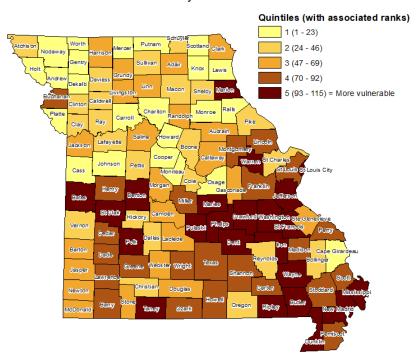


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators											
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days	
Henry	8	12.3	8	12.3	62	1.0	8	36.8	228	1,049.8	16.9	
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7	

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

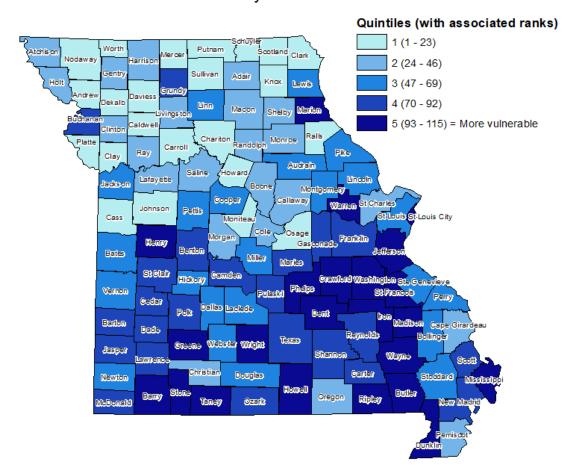


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

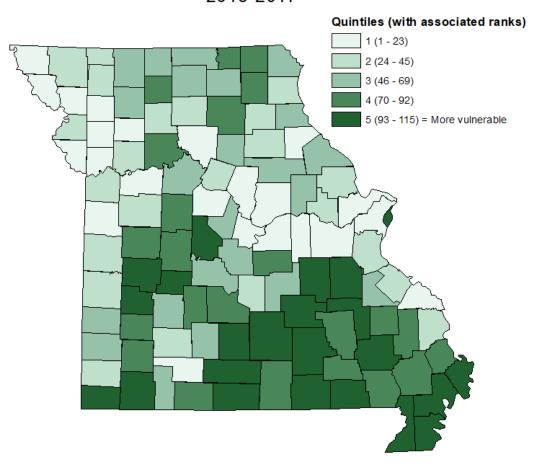
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Henry	8	12.3	8	12.3	64	98.4	20	125.8	62	1.0	26	119.7	228	1,049.8
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

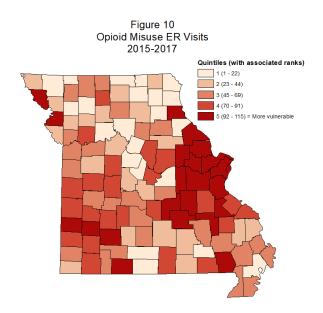
riguic o.	rigure 6. Community ractors									
Henry County										
ACS Data 2013-2017	Rate	Rank	Quintile							
Lack of a High School Education	12.1%	43	2nd							
Median Income	\$41,089	78	4th							
Poverty	21.2%	93	5th							
Unemployment	6.7%	77	4th							
Uninsured	11.9%	54	3rd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

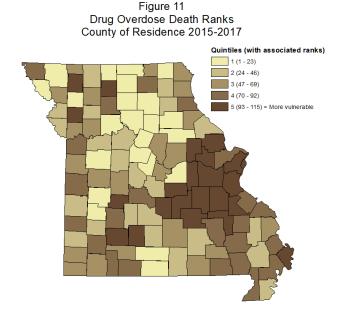


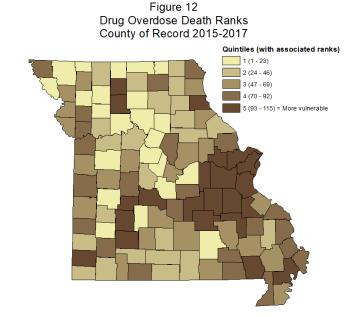
The 2015-2017 number of emergency room visits due to opioid misuse was 62, at a rate of 1.0 visits per 1,000 residents. This is rank 80 (4th quintile) for this indicator.

Henry County ranks 57 (3rd quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Henry County drug overdose deaths was 8, at a rate of 12.3 deaths per 100,000 population.

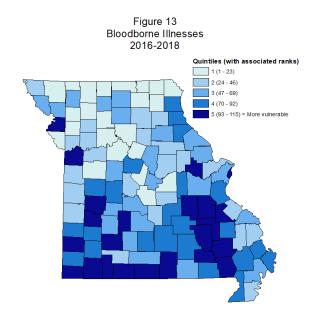
By county of record, the 2015-2017 number of Henry County drug overdose deaths was 8, at a rate of 12.3 deaths per 100,000 population.

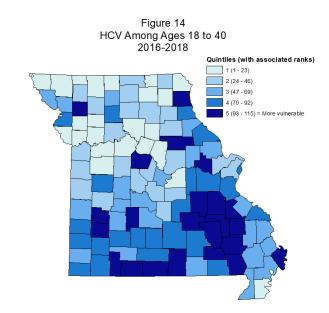




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Henry County totaled 64 for 2016-2018, at a rate of 98.4 cases per 100,000 residents. This is rank 87 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Henry County, 20 new cases of HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 125.8 cases per 100,000 residents. Henry County ranks 72 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 32 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 147.4 cases per 100,000 residents.

Out of 54 acute and chronic HCV cases in Henry County, 30 (55.6%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 32 (59.3%) of all 2016-2018 HCV cases in Henry County.

AIDS = Acquired Immunodeficiency Syndrome

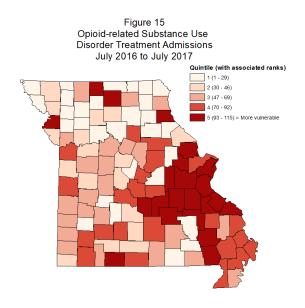
STD = Sexually Transmitted Disease

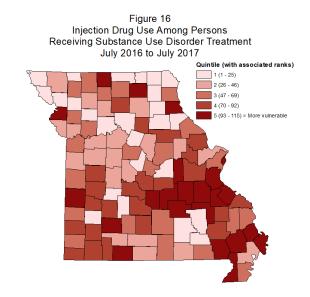
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 8, a rate of 36.8 persons per 100,000 population, placing this county in rank 40 (2nd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

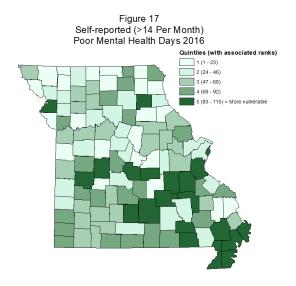
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 26, a rate of 119.7 persons per 100,000 population, placing this county in rank 77 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

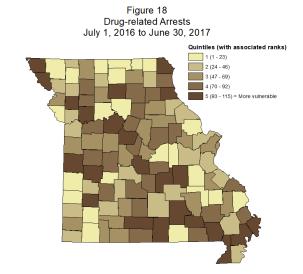




In 2016, 16.9 percent of Henry County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Henry County in rank 93 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 228 drug-related arrests occurred in Henry County, at a rate of 1,049.8 arrests per 100,000 population. This placed Henry County in rank 87 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Henry County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Howell County

Howell County is located along the Arkansas border and between years 2013 to 2017 had an estimated population of 40,139. Howell County ranks 28 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 5.0%. This was lower than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 22.9%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$34,984. The population distribution is as follows:

Figure 1: Howell County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	19,656	49.0		0 – 9 years	5,145	12.8					
Female	20,483	51.0		10 – 14 years	2,899	7.2					
Race				15 – 19 years	2,472	6.2					
Black/African American alone	130	0.3		20 – 24 years	2,500	6.2					
White alone	38,497	95.9		25 – 39 years	6,976	17.4					
Other	1,512	3.8		40 – 59 years	10,281	25.6					
Ethnicity				Over 60 years	9,866	24.6					
Hispanic	823	2.1		Median Age	40.2 years						
Non-Hispanic	39,316	97.9									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Howell County ranked 90 (4th quintile) for vulnerability to opioid overdoses. Howell County ranked 99 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

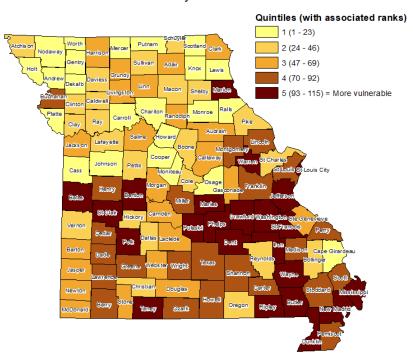


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Howell	12	10.0	10	8.3	103	0.9	22	54.9	494	1,231.8	16.9
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

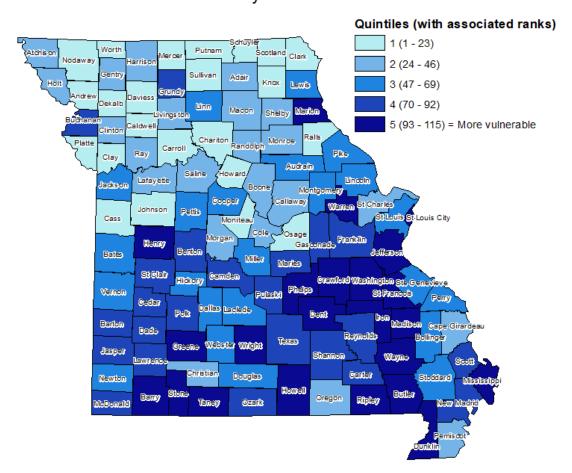


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

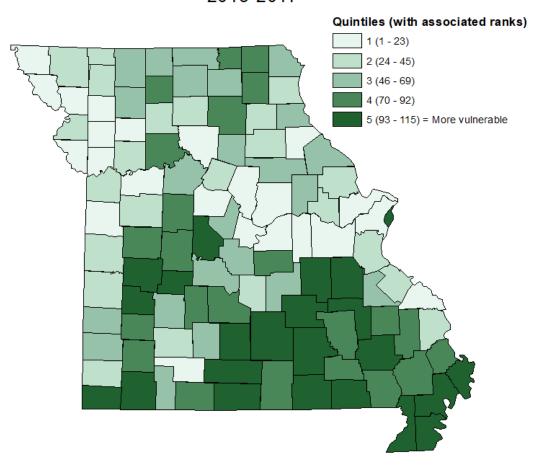
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Howell	12	10.0	10	8.3	172	142.8	67	210.7	103	0.9	38	94.8	494	1,231.8
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

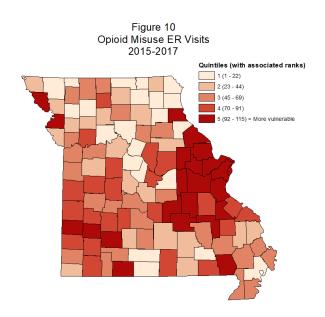
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Howell County										
ACS Data 2013-2017	Rate	Rank	Quintile							
Lack of a High School Education	14.3%	68	3rd							
Median Income	\$34,984	103	5th							
Poverty	22.9%	99	5th							
Unemployment	5.0%	41	2nd							
Uninsured	12.3%	59	3rd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

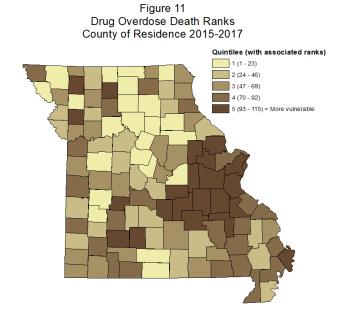


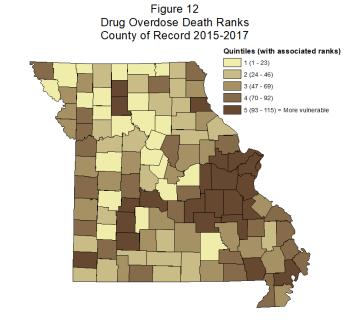
The 2015-2017 number of emergency room visits due to opioid misuse was 103, at a rate of 0.9 visits per 1,000 residents. This is rank 73 (4th quintile) for this indicator.

Howell County ranks 39 (2nd quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Howell County drug overdose deaths was 12, at a rate of 10.0 deaths per 100,000 population.

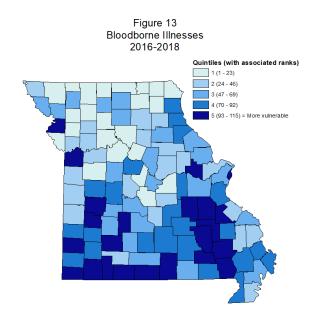
By county of record, the 2015-2017 number of Howell County drug overdose deaths was 10, at a rate of 8.3 deaths per 100,000 population.

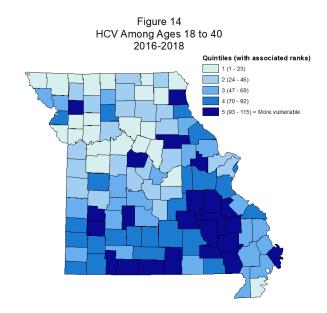




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Howell County totaled 172 for 2016-2018, at a rate of 142.8 cases per 100,000 residents. This is rank 110 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Howell County, 67 new cases of HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 210.7 cases per 100,000 residents. Howell County ranks 103 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there 91 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 238.3 cases per 100,000 residents.

Out of 165 acute and chronic HCV cases in Howell County, 96 (58.2%) were male. For the cases in which race was identified, <5 (<2.1%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 68 (41.2%) of all 2016-2018 HCV cases Howell County.

AIDS = Acquired Immunodeficiency Syndrome

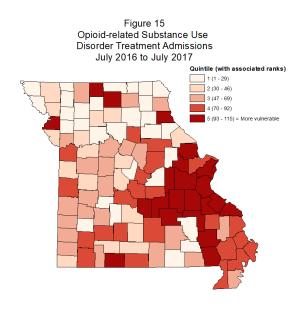
STD = Sexually Transmitted Disease

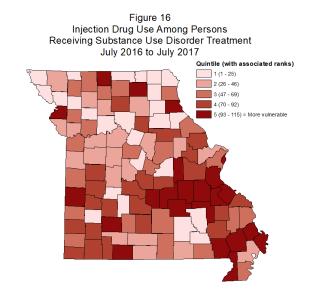
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 22, a rate of 54.9 persons per 100,000 population, placing this county in rank 57 (3rd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

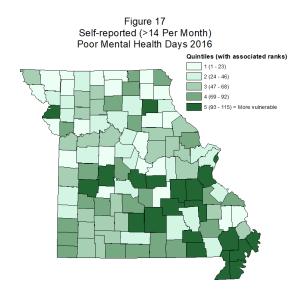
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 38, a rate of 94.8 persons per 100,000 population, placing this county in rank 61 (3rd quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

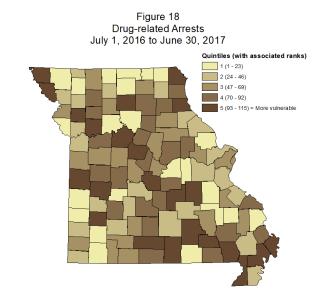




In 2016, 16.9 percent of Howell County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Howell County in rank 93 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 494 drug-related arrests occurred in Howell County, at a rate of 1,231.8 arrests per 100,000 population. Howell County ranks 98 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Howell County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Iron County

Iron County is located in southeast Missouri and between years 2013 to 2017 had an estimated population of 10,286. Iron County ranks 85 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 8.6%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 21.2%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$36,457. The population distribution is as follows:

Figure 1: Iron County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	5,114	49.7		0 – 9 years	1,006	9.8					
Female	5,172	50.3		10 – 14 years	705	6.9					
Race				15 – 19 years	645	6.3					
Black/African											
American alone	159	1.5		20 – 24 years	543	5.3					
White alone	9,875	96.0		25 – 39 years	1,592	15.5					
Other	252	2.4		40 – 59 years	2,915	28.3					
Ethnicity				Over 60 years	2,880	28.0					
Hispanic	180	1.7		Median Age	45.3 years						
Non-Hispanic	10,106	98.3		_		_					

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes nt x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Iron County ranked 111 (5th quintile) for vulnerability to opioid overdoses. Iron County ranked 109 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

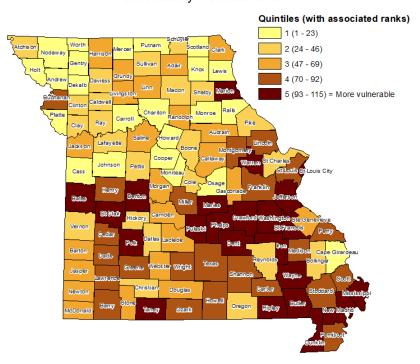


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Iron	10	32.9	7	23.0	102	3.4	12	117.3	24	234.7	19.6
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

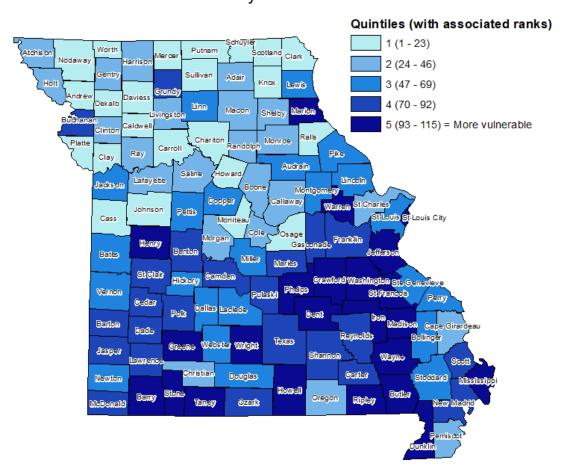


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

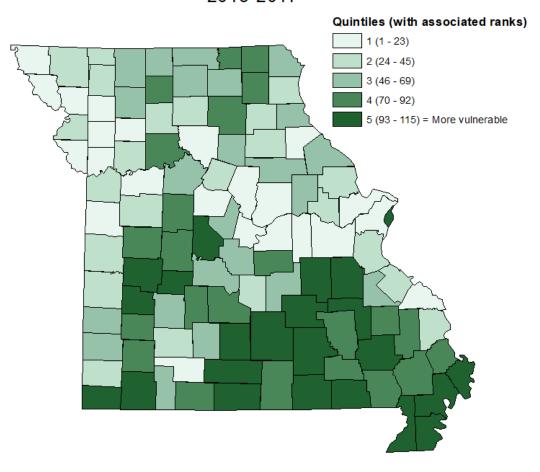
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Iron	10	32.9	7	23.0	40	131.7	19	255.7	102	3.4	19	185.8	24	234.7
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

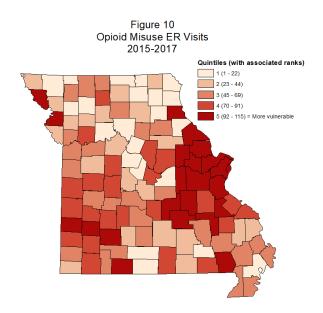
11841001	community	. acco.s								
Iron County										
ACS Data 2013-2017	Rate	Rank	Quintile							
Lack of a High School Education	19.3%	98	5th							
Median Income	\$36,457	97	5th							
Poverty	21.2%	93	5th							
Unemployment	8.6%	103	5th							
Uninsured	14.9%	87	4th							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

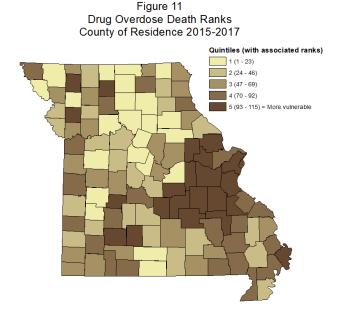


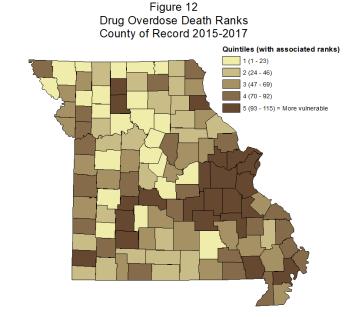
The 2015-2017 number of emergency room visits due to opioid misuse was 102, at a rate of 3.4 visits per 1,000 residents. This is rank 113 (5th quintile) for this indicator.

Iron County ranks 109 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Iron County drug overdose deaths was 10, at a rate of 32.9 deaths per 100,000 population.

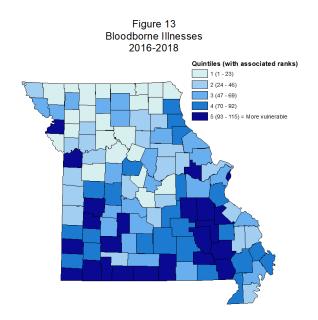
By county of record, the number of Iron County drug overdose deaths was 7, at a rate of 23.0 deaths per 100,000 population.

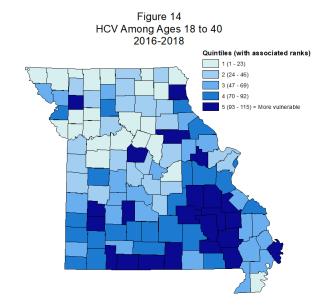




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Iron County totaled 40 for 2016-2018, at a rate of 131.7 cases per 100,000 residents. This is rank 103 (5th quintile) for this indicator.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Iron County, 19 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group, for a rate of 255.7 cases per 100,000 residents. Iron County ranks 107 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 16 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 148.2 cases per 100,000 residents.

Out of 37 acute and chronic HCV cases in Iron County, 13 (35.1%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 20 (54.1%) of all 2016-2018 HCV cases in Iron County.

AIDS = Acquired Immunodeficiency Syndrome

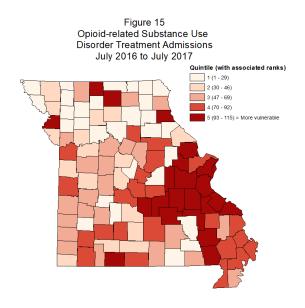
STD = Sexually Transmitted Disease

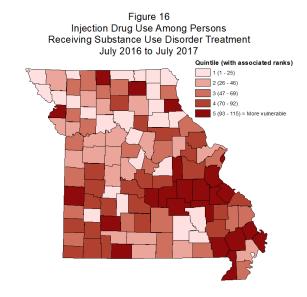
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 12, a rate of 117.3 persons per 100,000 population, placing this county in rank 96 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

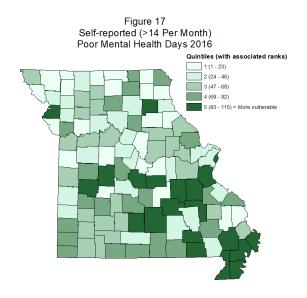
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 19, a rate of 185.8 persons per 100,000 population, placing this county in rank 104 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

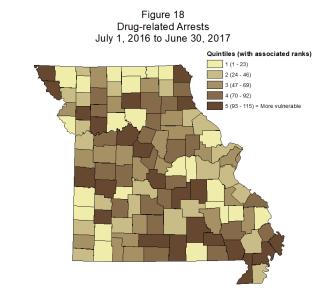




In 2016, 19.6 percent of Iron County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Iron County in rank 108 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 24 drug-related arrests occurred in Iron County, at a rate of 234.7 arrests per 100,000 population. Iron County in ranks 6 (1st quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
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- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADA/Indicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
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- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Iron County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Jefferson County

Jefferson County is located in eastern Missouri along the Illinois border and between years 2013 to 2017 had an estimated population of 222,639. Jefferson County ranks 7 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.5%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 10.9%, which was lower than the statewide poverty rate of 14.6%. The median income of the county was \$60,765. The population distribution is as follows:

Figure 1: Jefferson County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	110,772	49.8		0 – 9 years	29,020	13.0					
Female	111,867	50.2		10 – 14 years	14,977	6.7					
Race				15 – 19 years	13,775	6.2					
Black/African											
American alone	2,269	1.0		20 – 24 years	12,764	5.7					
White alone	214,198	96.2		25 – 39 years	43,945	19.7					
Other	6,172	2.8		40 – 59 years	63,812	28.7					
Ethnicity				Over 60 years	44,346	19.9					
Hispanic	4,108	1.8		Median Age	38.8 years						
Non-Hispanic	218,531	98.2									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
tcomes (3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Outco (Weight x 3)	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
munity (Weight		Lack of a High School Education†	
mmunity (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Jefferson County ranked 100 (5th quintile) for vulnerability to opioid overdoses. Jefferson County ranked 97 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4
Missouri Opioid Overdose
Vulnerability Assessment

Quintiles (with associated ranks)

1 (1 - 23)

Atchia on Nodaway Worth Harrison Mercer Putnam Schilly Scotland Clark

Gentry Gentry Sullivan Adair Knox Lawis

4 (70 - 92)

5 (93 - 115) = More vulnerable

Morphises

Nodaway

Gentry

Holt

Andrew

Dekalb

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Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Jefferson	250	37.2	187	27.8	1,395	2.1	390	174.3	1,382	617.5	21.6
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

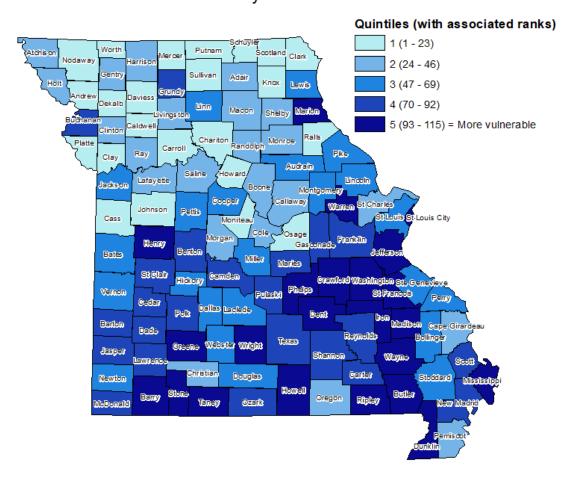


Figure 7: Individual Outcome Indicators

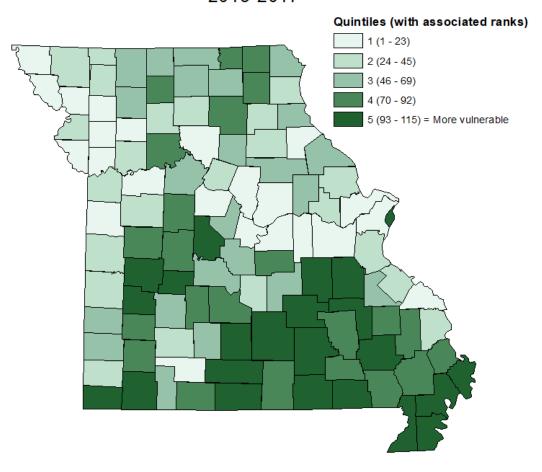
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Jefferson	250	37.2	187	27.8	604	89.9	300	156.4	1,395	2.1	419	187.2	1,382	617.5
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

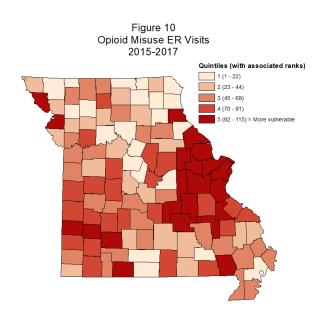
rigare of community ractors											
Jefferson County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	11.8%	38	2nd								
Median Income	\$60,765	6	1st								
Poverty	10.9%	11	1st								
Unemployment	6.5%	74	4th								
Uninsured	8.9%	21	1st								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

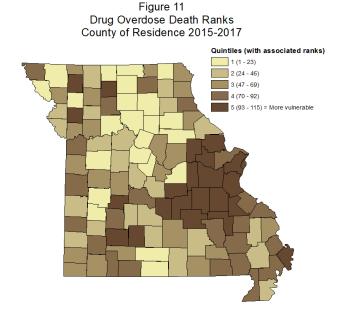


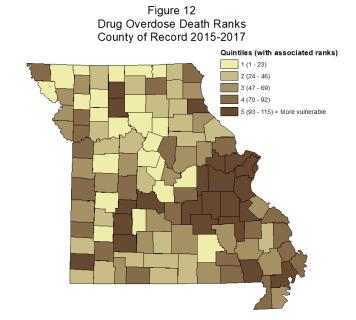
The 2015-2017 number of emergency room visits due to opioid misuse was 1,395, at a rate of 2.1 per 1,000. This is rank 110 (5th quintile) for this indicator.

Jefferson County ranks 113 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Jefferson County drug overdose deaths was 250, at a rate of 37.2 deaths per 100,000 population.

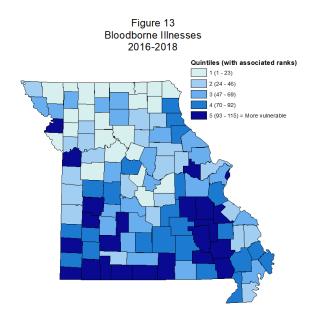
By county of record, the 2015-2017 number of Jefferson County drug overdose deaths was 187, at a rate of 27.8 deaths per 100,000 population.

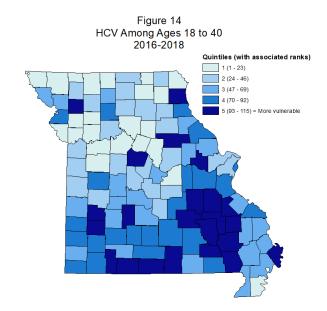




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Jefferson County totaled 604 for 2016-2018, at a rate of 89.9 cases per 100,000 residents. This is rank 76 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Jefferson County 300 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 156.4 cases per 100,000 residents. Jefferson County ranks 86 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 250 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 107.0 cases per 100,000 residents.

Out of 573 acute and chronic HCV cases in Jefferson County, 332 (57.9%) were male. For the cases in which race was identified, 12 (3.3%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 213 (37.2%) of all 2016-2018 HCV cases in Jefferson County.

AIDS = Acquired Immunodeficiency Syndrome

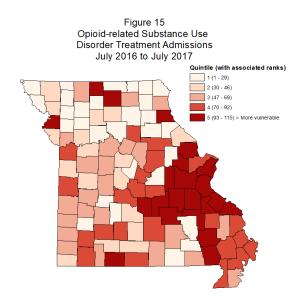
STD = Sexually Transmitted Disease

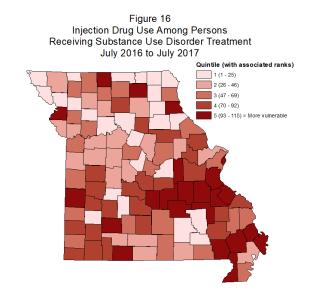
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 390, a rate of 174.3 persons per 100,000 populating, placing this county in rank 108 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

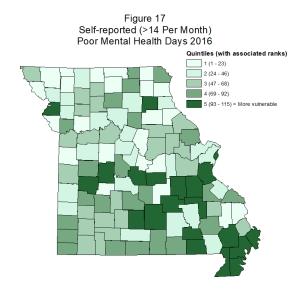
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 419, a rate of 187.2 persons per 100,000 population, placing this county in rank 105 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

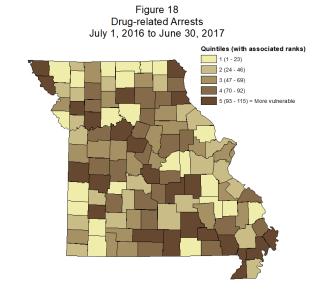




In 2016, 21.6 percent of Jefferson County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Jefferson County in rank 114 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 1,382 drug-related arrests occurred in Jefferson County, a rate of 617.5 arrests per 100,000 population. Jefferson County ranks 44 (2nd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADA/Indicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments 2020*. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Jefferson County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Madison County

Madison County is located in southeast Missouri and between years 2013 to 2017 had an estimated population of 12,226. Madison County ranks 81 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 5.8%. This was equal to the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 18.8%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$37,484. The population distribution is as follows:

Figure 1: Madison County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	6,004	49.1		0 – 9 years	1,601	13.1					
Female	6,222	50.9		10 – 14 years	687	5.6					
Race				15 – 19 years	723	5.9					
Black/African											
American alone	116	0.9		20 – 24 years	665	5.4					
White alone	11,889	97.2		25 – 39 years	2,143	17.5					
Other	221	1.8		40 – 59 years	3,281	26.8					
Ethnicity				Over 60 years	3,126	25.6					
Hispanic	286	2.3		Median Age	41.7 years						
Non-Hispanic	11,940	97.7									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Madison County ranked 82 (4th quintile) for vulnerability to opioid overdoses. Madison County ranked 96 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

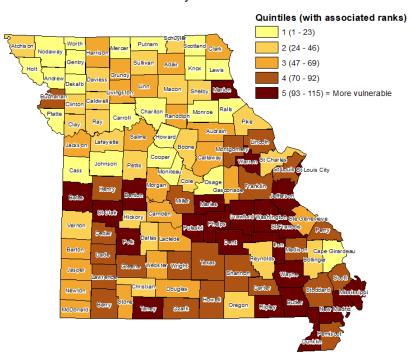


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Madison	7	18.9	6	16.2	44	1.2	9	73.5	32	261.4	14.3
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

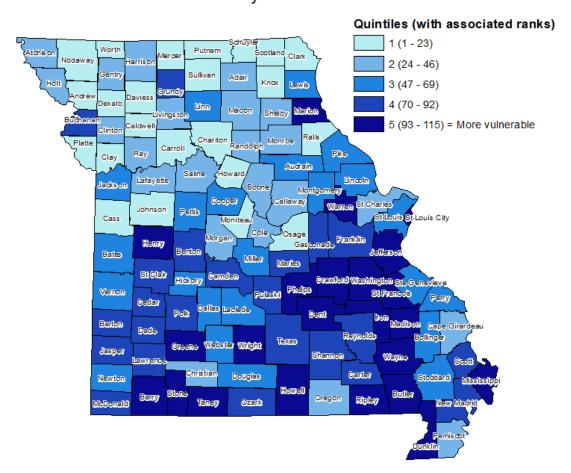


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

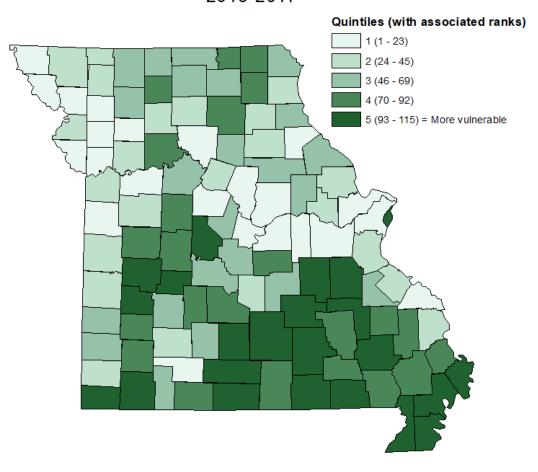
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Madison	7	18.9	6	16.2	37	99.7	17	175.4	44	1.2	18	147.0	32	261.4
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

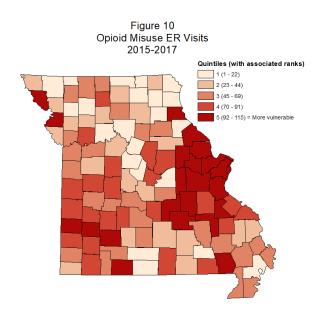
11641 C 01	community	1 4000.5									
Madison County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	18.9%	97	5th								
Median Income	\$37,484	94	5th								
Poverty	18.8%	79	4th								
Unemployment	5.8%	58	3rd								
Uninsured	12.0%	56	3rd								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

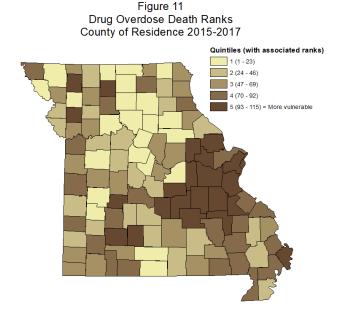


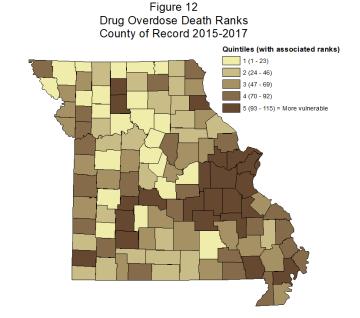
The 2015-2017 number of emergency room visits due to opioid misuse was 44, at a rate of 1.2 visits per 1,000 residents. This is rank 91 (4th quintile) for this indicator.

Madison County ranks 81 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Madison County drug overdose deaths was 7, at a rate of 18.9 deaths per 100,000 population.

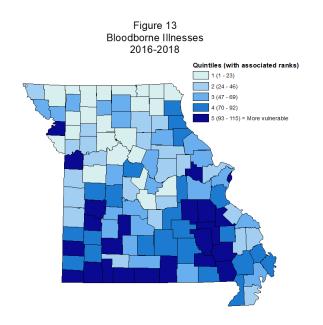
By county of record, the 2015-2017 number of Madison County drug overdose deaths was 6, at a rate of 16.2 deaths per 100,000 population.

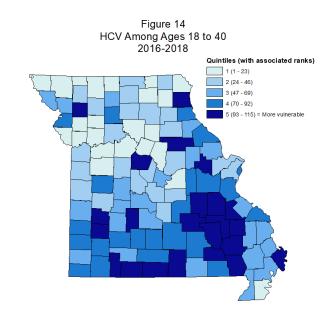




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Jefferson County totaled 37 for 2016-2018, at a rate of 99.7 cases per 100,000 residents. This is rank 89 (4th quintile) for this bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Madison County, 17 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 175.4 cases per 100,000 residents. Madison County ranks 93 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 17 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 139.4 cases per 100,000 residents.

Out of 34 acute and chronic HCV cases in Madison County, 17 (50.0%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 13 (38.2%) of all 2016-2018 HCV cases in Madison County.

AIDS = Acquired Immunodeficiency Syndrome

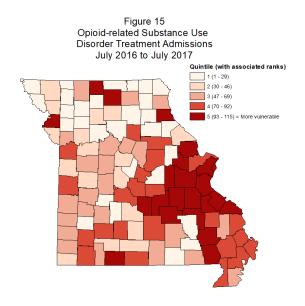
STD = Sexually Transmitted Disease

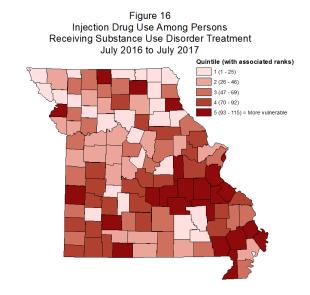
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 9, a rate of 73.5 persons per 100,000 population, placing this county in rank 80 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

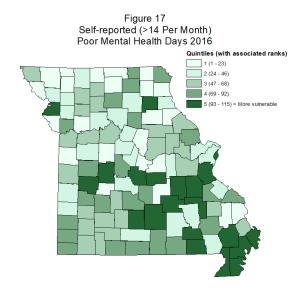
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 18, a rate of 147.0 persons per 100,000 population, placing this county in rank 92 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

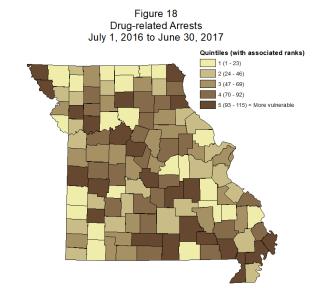




In 2016, 14.3 percent of Madison County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Madison County in rank 68 (3rd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 32 drug-related arrests occurred in Madison County, at a rate of 261.4 arrests per 100,000 population. Madison County ranked 7 (1st quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Madison County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Maries County

Maries County is located in central Missouri and between years 2013 to 2017 had an estimated population of 8,959. Maries County ranks 94 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 7.7%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 18.9%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$41,715. The population distribution is as follows:

Figure 1: Maries County Population 2013-2017 5-Year Estimates

Demographics – Total Population										
Sex	Count Percent Age Group Count									
Male	4,496	50.2		0 – 9 years	1,038	11.6				
Female	4,463	49.8		10 – 14 years	482	5.4				
Race				15 – 19 years	665	7.4				
Black/African										
American alone	34	0.4		20 – 24 years	432	4.8				
White alone	8,806	98.3		25 – 39 years	1,338	14.9				
Other	119	1.3		40 – 59 years	2,627	29.3				
Ethnicity				Over 60 years	2,377	26.5				
Hispanic	226	2.5		Median Age	44.4 years					
Non-Hispanic	8,733	97.5								

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	rigure 2. Comparison of indicators for wissour vulnerability Assessments									
	Opioid Overdose	Both	Bloodborne Infection							
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡							
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40							
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT							
ors		Median Income†‡								
Factors x 1)		Poverty†								
ımunity (Weight		Lack of a High School Education†								
Community (Weight		Unemployment†‡								
Con		Uninsured†								

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Maries County ranked 101 (5th quintile) for vulnerability to opioid overdoses. Maries County ranked 78 (4th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

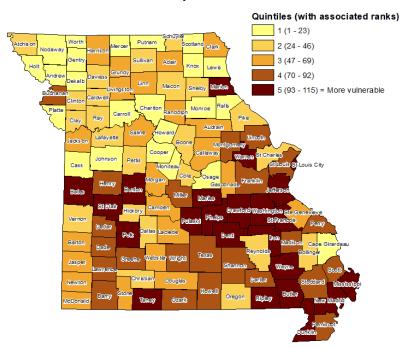


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray. Counts of 1 to 4 are suppressed due to confidentiality concerns.

Opioid Overdose Vulnerability Assessment Indicators											
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Maries	6	22.5	<5	<15.0	20	0.8	9	101.5	82	924.8	17.9
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

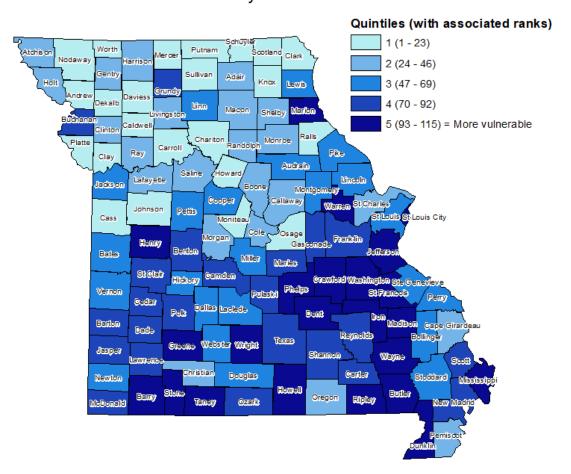


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray. Counts of 1 to 4 are suppressed due to confidentiality concerns.

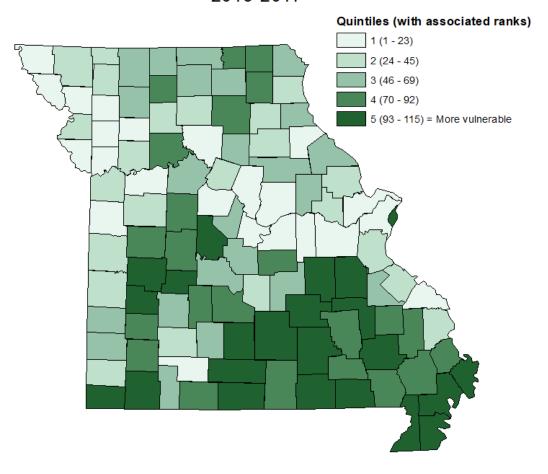
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Maries	6	22.5	<5	15.0	15	56.2	5	76.9	20	0.8	11	124.1	82	924.8
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

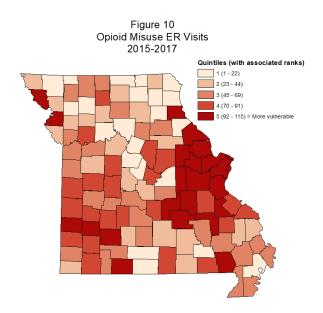
rigure of community ructors										
Maries County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	16.1%	78	4th							
Median Income	\$41,715	65	3rd							
Poverty	18.9%	80	4th							
Unemployment	7.7%	91	5th							
Uninsured	13.6%	72	4th							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

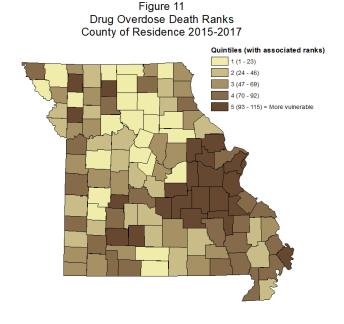


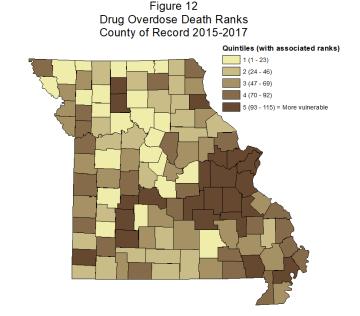
The 2015-2017 number of emergency room visits due to opioid misuse was 20, at a rate of 0.8 visits per 1,000 residents. This is rank 62 (3rd quintile) for this indicator.

Maries County ranks 85 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Maries County drug overdose deaths was 6, at a rate of 22.5 deaths per 100,000 population.

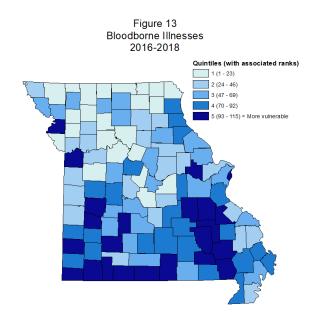
By county of record, the 2015-2017 number of people of Maries County drug overdose deaths was 5, at a rate of 15.0 deaths per 100,000 population.

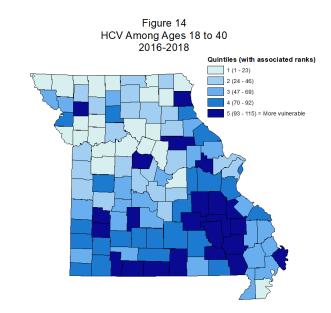




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Maries County totaled 15 for 2016-2018, at a rate of 56.2 cases per 100,000 residents. This is rank 40 (2nd quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Maries County, 5 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 76.9 cases per 100,000 residents. Maries County ranks 45 (2nd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 6 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 63.6 cases per 100,000 residents.

Out of 12 acute and chronic HCV cases in Maries County, 0 (33.3%) were male. For the cases in which race was identified, <5 (<11.1%) were African American. However, please interpret race data for HCV with caution due to small numbers.

AIDS = Acquired Immunodeficiency Syndrome

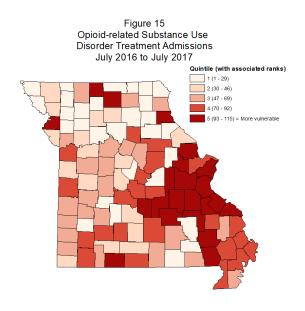
STD = Sexually Transmitted Disease

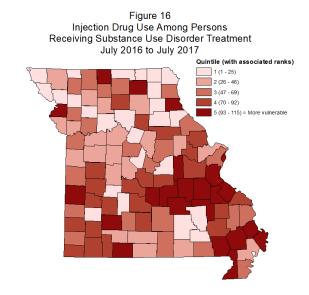
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 9, a rate of 101.5 persons per 100,000 population, placing this county in rank 92 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

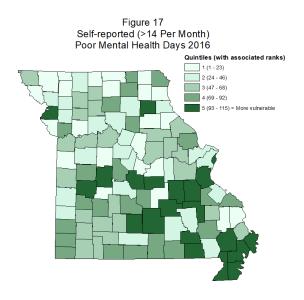
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 11, a rate of 124.1 persons per 100,000 population, placing this county in rank 79 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

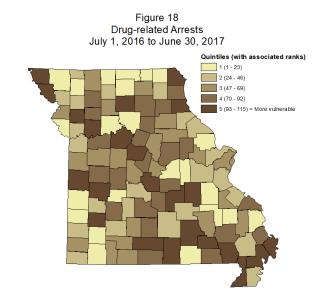




In 2016, 17.9 percent of Maries County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Maries County in rank 99 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 82 drug-related arrests occurred in Maries County, at a rate of 924.8 arrests per 100,000 population. Maries County ranks 78 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADA/Indicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Maries County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Marion County

Marion County is located in northeast Missouri along the Illinois border and between years 2013 to 2017 had an estimated population of 28,703. Marion County ranks 40 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.5%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 18.4%, which was higher than the statewide poverty rate of 14.6%. The median income of the county was \$44,098. The population distribution is as follows:

Figure 1: Marion County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent	Age Group	Count	Percent						
Male	13,841	48.2	0 – 9 years	3,674	12.8						
Female	14,862	51.8	10 – 14 years	1,905	6.6						
Race			15 – 19 years	1,950	6.8						
Black/African			·								
American alone	1,518	5.3	20 – 24 years	1,850	6.4						
White alone	26,167	91.2	25 – 39 years	5,227	18.2						
Other	1,018	3.5	40 – 59 years	7,461	26.0						
Ethnicity			Over 60 years	6,636	23.1						
Hispanic	465	1.6	Median Age	39.2 years							
Non-Hispanic	28,238	98.4			_						

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Marion County ranked 96 (5th quintile) for vulnerability to opioid overdoses. Marion County ranked 105 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

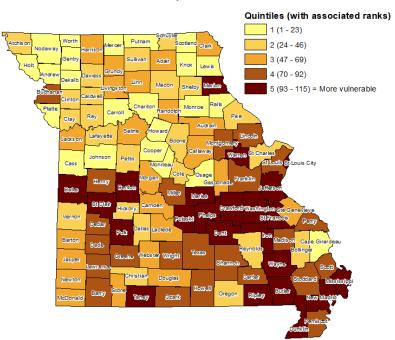


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Marion	19	22.0	17	19.7	105	1.2	36	125.7	357	1,246.8	10.9
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

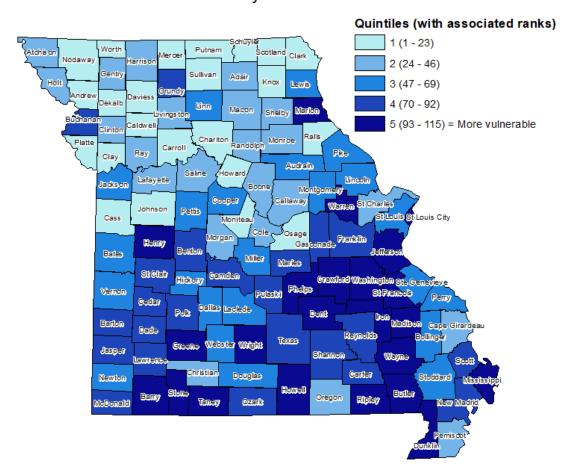


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

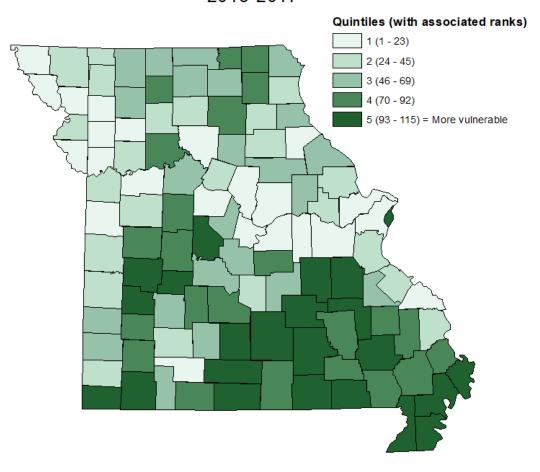
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Marion	19	22.0	17	19.7	87	100.7	31	126.7	105	1.2	64	223.5	357	1,246.8
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

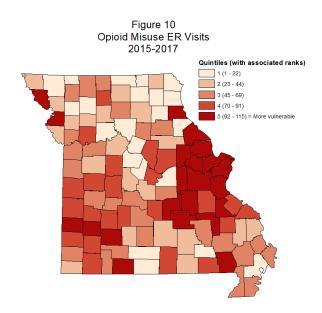
rigare or community ractors											
Marion County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	11.7%	35	2nd								
Median Income	\$44,098	47	3rd								
Poverty	18.4%	72	4th								
Unemployment	6.5%	74	4th								
Uninsured	11.5%	50	3rd								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators



The 2015-2017 number of emergency room visits due to opioid misuse was 105, at a rate of 1.2 visits per 1,000 residents. This is rank 95 (5th quintile) for this indicator.

Marion County ranks 95 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

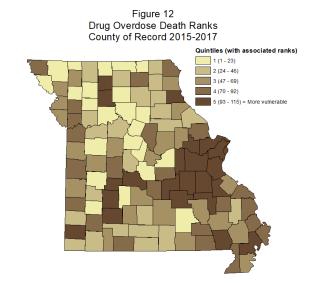
By county of residence, the 2015-2017 number of Marion County drug overdose deaths was 19, at a rate of 22.0 deaths per 100,000 population.

Figure 11
Drug Overdose Death Ranks
County of Residence 2015-2017

Ountiles (with associated ranks)

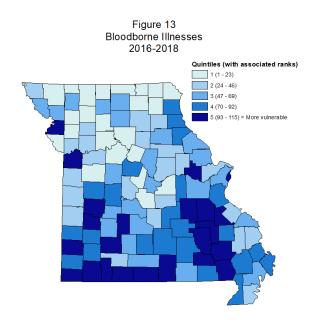
1 (1 - 23)
2 (24 - 46)
3 (47 - 69)
4 (70 - 92)
5 (93 - 115) = More vulnerable

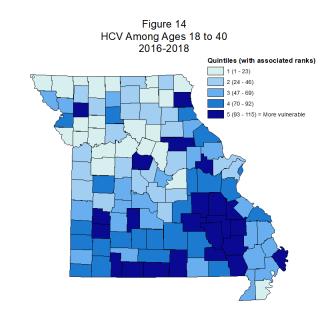
By county of record, the 2015-2017 number of Marion County drug overdose deaths was 17, at a rate of 19.7 deaths per 100,000 population.



New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Marion County totaled 87 for 2016-2018, at a rate of 100.7 cases per 100,000 residents. This is rank 90 (4th quintile) for this bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Marion County, 31 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 126.7 cases per 100,000 residents. Marion County ranked 73 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 48 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 173.4 cases per 100,000 residents.

Out of 82 acute and chronic HCV cases in Marion County, 46 (56.1%) were male. For the cases in which race was identified, <5 (<7.7%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 43 (52.4%) of all 2016-2018 HCV cases in Marion County.

AIDS = Acquired Immunodeficiency Syndrome

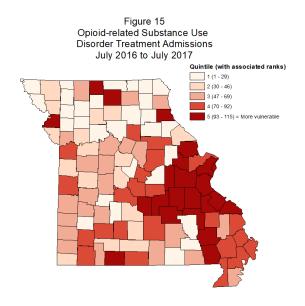
STD = Sexually Transmitted Disease

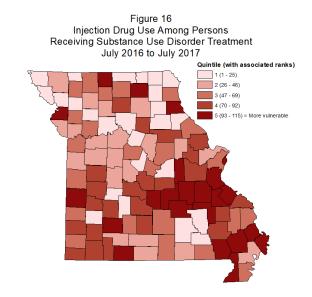
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 36, a rate of 125.7 persons per 100,000 population, placing this county in rank 98 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

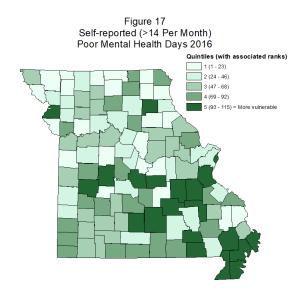
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 64, a rate of 223.5 persons per 100,000 population, placing this county in rank 109 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

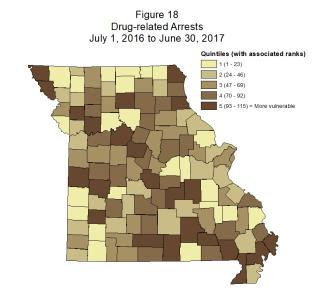




In 2016, 10.9 percent of Marion County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Marion County in rank 24 (2nd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 357 drug-related arrests occurred in Marion County, at a rate of 1,246.8 arrests per 100,000 population. Marion County ranked 99 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data.
 Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Marion County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Mississippi County

Mississippi County is located in southeast Missouri along the Illinois and Kentucky borders and between years 2013 to 2017 had an estimated population of 13,916. Mississippi County ranks 72 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 10.0%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 31.7%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$32,212. The population distribution is as follows:

Figure 1: Mississippi County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	7,495	53.9		0 – 9 years	1,635	11.7					
Female	6,421	46.1		10 – 14 years	976	7.0					
Race				15 – 19 years	873	6.3					
Black/African											
American alone	3,357	24.1		20 – 24 years	623	4.5					
White alone	10,195	73.3		25 – 39 years	2,922	21.0					
Other	364	2.6		40 – 59 years	3,819	27.4					
Ethnicity				Over 60 years	3,068	22.0					
Hispanic	277	2.0		Median Age	39.4 years						
Non-Hispanic	13,639	98.0									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Mississippi County ranked 113 (5th quintile) for vulnerability to opioid overdoses. Mississippi County ranked 111 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

J		
Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

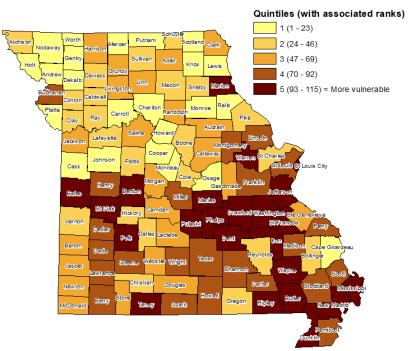


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Mississippi	10	24.1	7	16.9	28	0.7	13	95.7	170	1,251.3	20.3
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

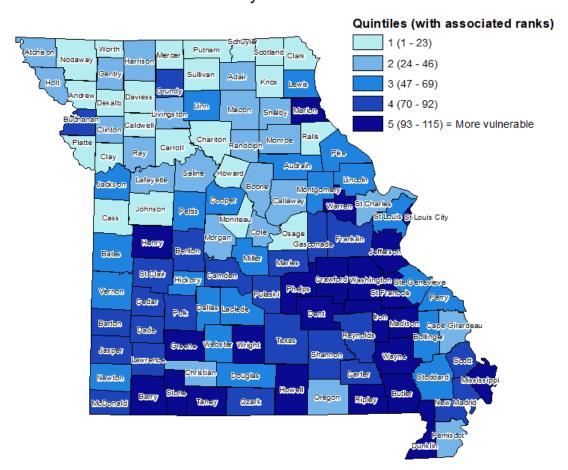


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

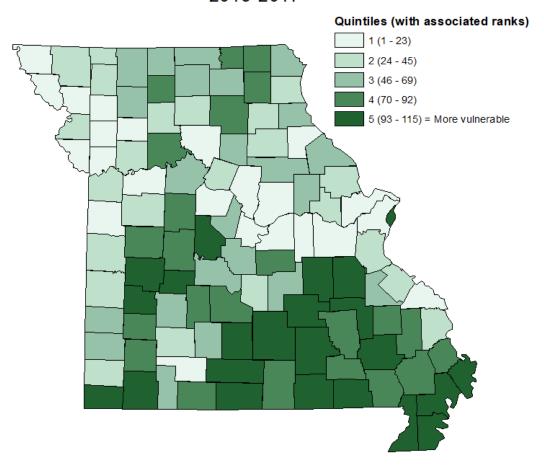
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Mississippi	10	24.1	7	16.9	38	91.7	33	266.0	28	0.7	28	206.1	170	1,251.3
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

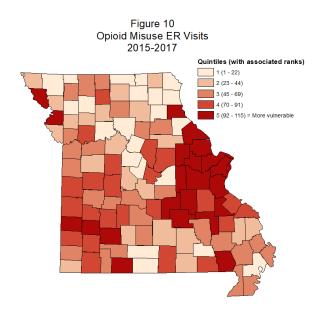
Tigal C 0.	community	1 400013								
Mis	Mississippi County									
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	25.7%	114	5th							
Median Income	\$32,212	111	5th							
Poverty	31.7%	115	5th							
Unemployment	10.0%	112	5th							
Uninsured	16.7%	101	5th							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

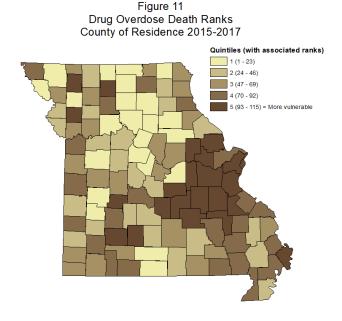


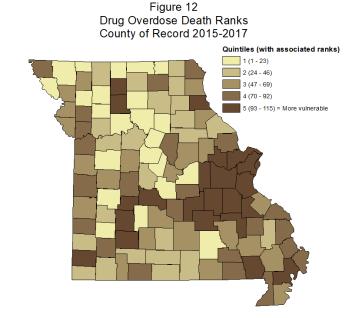
The 2015-2017 number of emergency room visits due to opioid misuse was 28, at a rate of 0.7 visits per 1,000 residents. This is rank 50 (3rd quintile) for this indicator.

Mississippi County ranks 92 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number Mississippi County drug overdose deaths was 10, at a rate of 24.1 deaths per 100,000 population.

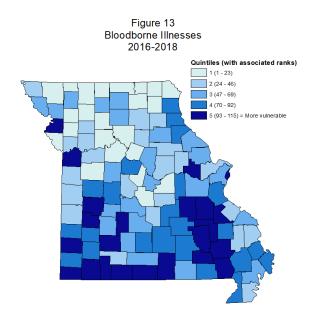
By county of record, the 2015-2017 number Mississippi County drug overdose deaths was 7, at a rate of 16.9 deaths per 100,000 population.

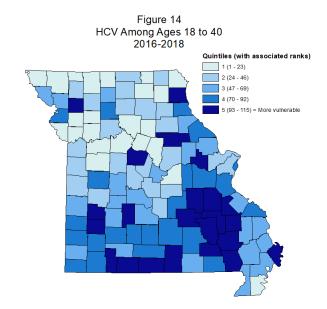




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Mississippi County totaled 38 for 2016-2018, at a rate of 91.7 cases per 100,000 residents. This is rank 79 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Mississippi County, 33 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 266.0 cases per 100,000 residents. Mississippi County ranked 109 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 46 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 342.4 cases per 100,000 residents.

Out of 85 acute and chronic HCV cases, 66 (77.6%) were male. For the cases in which race was identified, 13 (22.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 26 (30.6%) of all 2016-2018 HCV cases in Mississippi County.

AIDS = Acquired Immunodeficiency Syndrome

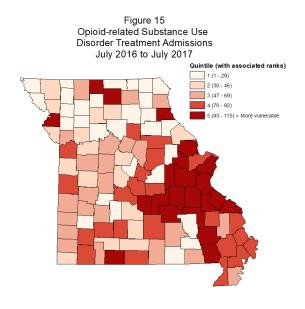
STD = Sexually Transmitted Disease

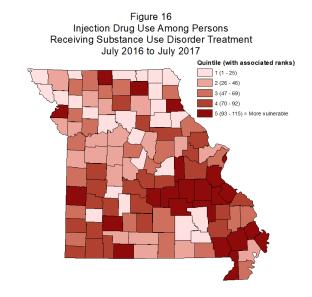
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 13, a rate of 95.7 persons per 100,000 population, placing this county in rank 89 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 28, a rate of 206.1 persons per 100,000 population, placing this county in rank 108 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

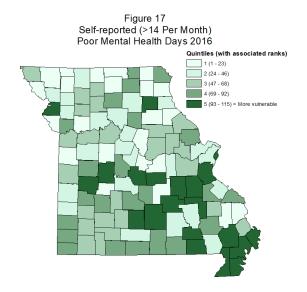


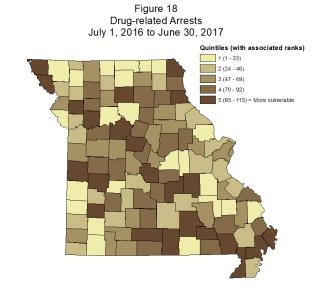


In 2016, 20.3 percent of Mississippi County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Mississippi County in rank 112 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 170 drug-related arrests occurred in Mississippi County, at a rate of 1,251.3 arrests per 100,000 population.

Mississippi County ranked 100 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Mississippi County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



New Madrid County

New Madrid County is located in the southeast bootheel region of Missouri along the Kentucky border and between years 2013 to 2017 had an estimated population of 18,030. New Madrid County ranks 60 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 9.4%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 24.1%, which was higher than the statewide poverty rate of 14.6%. The median income of the county was \$33,846. The population distribution is as follows:

Figure 1: New Madrid County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	8,681	48.1		0 – 9 years	2,326	12.9					
Female	9,349	51.9		10 – 14 years	1,191	6.6					
Race				15 – 19 years	1,037	5.8					
Black/African											
American alone	2,906	16.1		20 – 24 years	1,039	5.8					
White alone	14,655	81.3		25 – 39 years	3,038	16.8					
Other	469	2.6		40 – 59 years	5,022	27.9					
Ethnicity				Over 60 years	4,377	24.3					
Hispanic	317	1.8		Median Age	41.3 years						
Non-Hispanic	17,713	98.2									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, New Madrid County ranked 106 (5th quintile) for vulnerability to opioid overdoses. New Madrid County ranked 81 (4th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

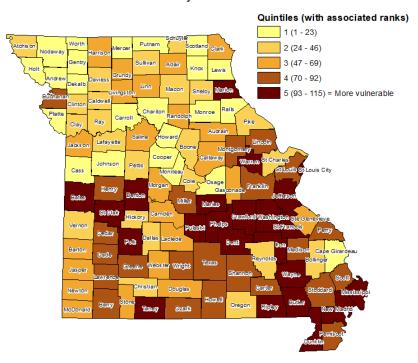


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
New Madrid	11	20.5	12	22.3	19	0.4	12	68.3	216	1,228.5	18.3
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

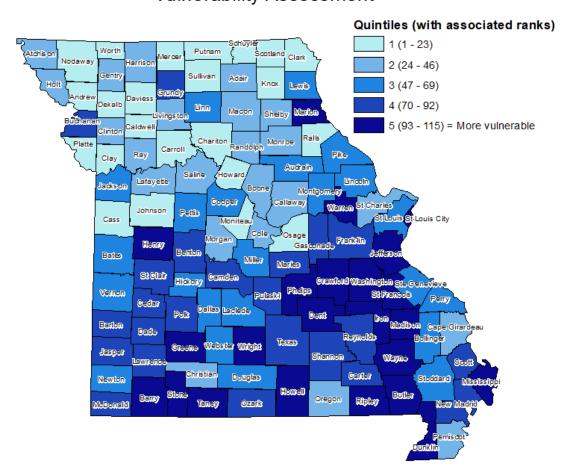


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray. Counts of 1 to 4 are suppressed due to confidentiality concerns.

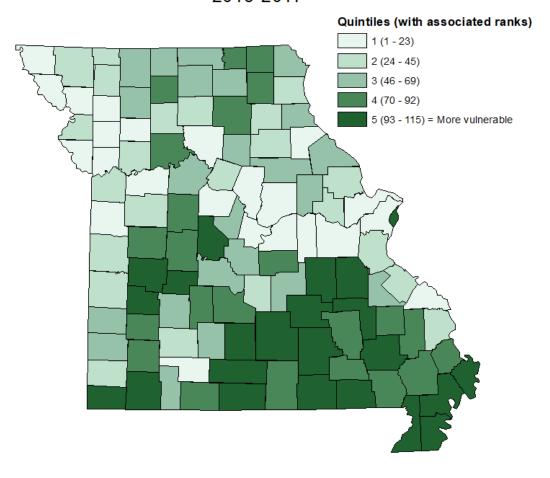
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
New Madrid	11	20.5	12	22.3	41	76.3	12	85.5	19	0.4	<5	<28.4	216	1,228.5
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

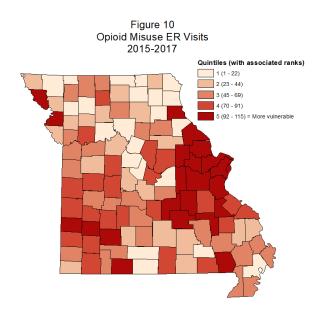
rigare of community ractors										
New Madrid County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	24.1%	111	5th							
Median Income	\$33,846	107	5th							
Poverty	24.1%	104	5th							
Unemployment	9.4%	107	5th							
Uninsured	17.8%	103	5th							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

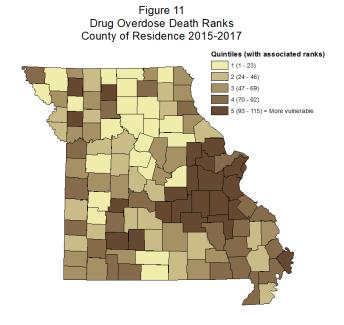


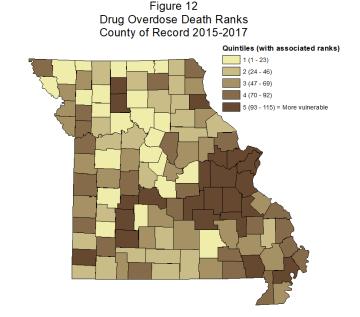
The 2015-2017 number of emergency room visits due to opioid misuse was 19, at a rate of 0.4 visits per 1,000 residents. This is rank 14 (1st quintile) for this indicator.

New Madrid County ranks 96 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of New Madrid County drug overdose deaths was 11, at a rate of 20.5 deaths per 100,000 population.

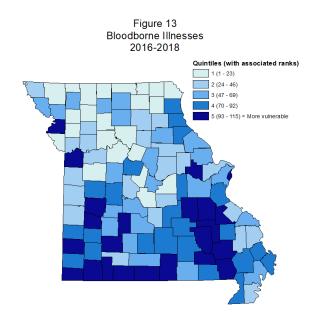
By county of record, the 2015-2017 number of New Madrid County drug overdose deaths was 12, at a rate of 22.3 deaths per 100,000 population.

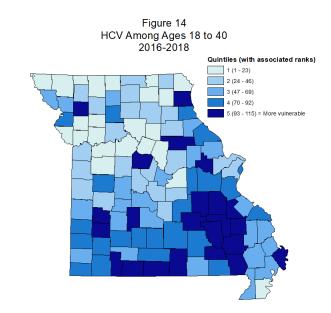




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for New Madrid County totaled 41 for 2016-2018, at a rate of 76.3 per 100,000 residents. This is rank 64 (3rd quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In New Madrid County, 12 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 85.5 cases per 100,000 residents. New Madrid County ranks 55 (3rd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 23 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 127.8 cases per 100,000 residents.

Out of 38 acute and chronic HCV cases, 22 (57.9%) were male. For the cases in which race was identified, <5 (<21.1%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 19 (50.0%) of all HCV 2016-2018 cases in New Madrid County.

AIDS = Acquired Immunodeficiency Syndrome

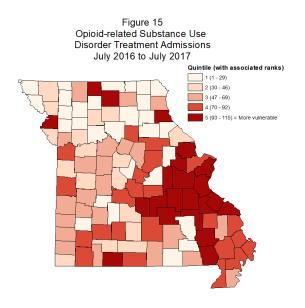
STD = Sexually Transmitted Disease

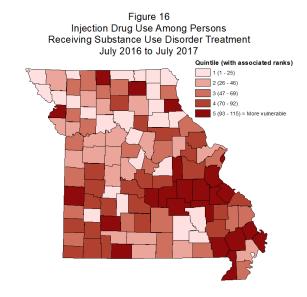
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 12, a rate of 68.3 persons per 100,000 population, placing this county in rank 75 (4th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

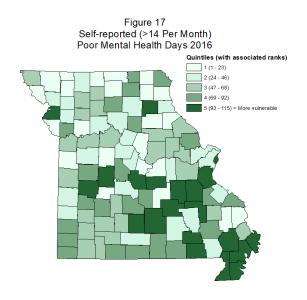
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 5, a rate of 28.4 persons per 100,000 population, placing this county in rank 28 (2nd quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

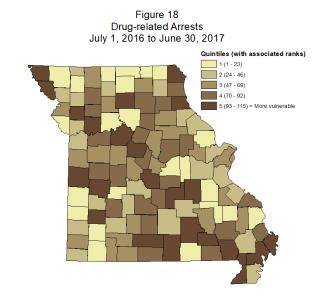




In 2016, 18.3 percent of New Madrid County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed New Madrid County in rank 101 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 216 drug-related arrests occurred in New Madrid County, at a rate of 1,228.5 arrests per 100,000 population. New Madrid County ranks 96 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: New Madrid County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Phelps County

Phelps County is located in central Missouri and between years 2013 to 2017 had an estimated population of 44,873. Phelps County ranks 23 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.3%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 20.4%, which was higher than the statewide poverty rate of 14.6%. The median income of the county was \$41,681. The population distribution is as follows:

Figure 1: Phelps County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Percent						
Male	23,605	52.6		0 – 9 years	5,435	12.1					
Female	21,268	47.4		10 – 14 years	2,540	5.7					
Race				15 – 19 years	3,585	8.0					
Black/African											
American alone	1,223	2.7		20 – 24 years	5,458	12.2					
White alone	40,823	91.0		25 – 39 years	7,973	17.8					
Other	2,827	6.3		40 – 59 years	10,528	23.5					
Ethnicity				Over 60 years	9,354	20.8					
Hispanic	1,086	2.4		Median Age	34.8 years						
Non-Hispanic	43,787	97.6									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	rigure 2. Comparison of mulcators for missouri vulnerability Assessments									
	Opioid Overdose	Both	Bloodborne Infection							
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡								
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40							
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT							
ors		Median Income†‡								
Factors x 1)		Poverty†								
ımunity (Weight		Lack of a High School Education†								
Community (Weight		Unemployment†‡								
Con		Uninsured†								

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Phelps County ranked 102 (5th quintile) for vulnerability to opioid overdoses. Phelps County ranked 107 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4
Missouri Opioid Overdose
Vulnerability Assessment
Quint
Nodaway Worth Harrison Mercer Putnam Schritzler

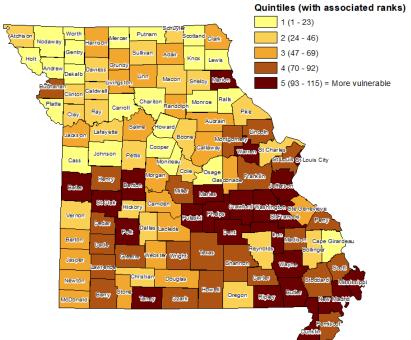


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Phelps	31	23.1	32	23.9	214	1.6	111	248.1	572	1,278.4	10.2
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

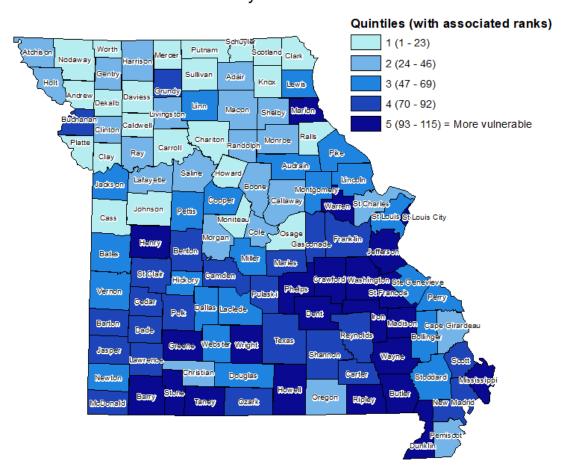


Figure 7: Individual Outcome Indicators

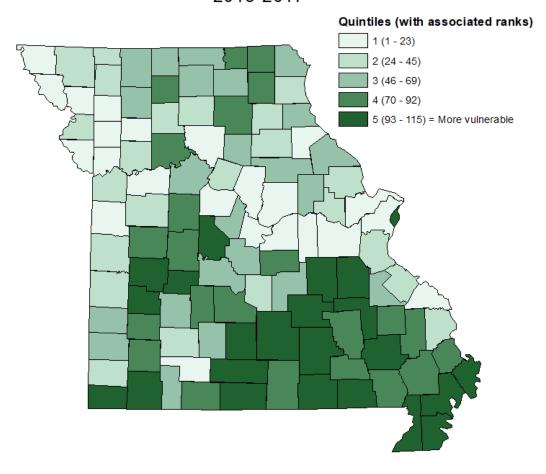
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Phelps	31	23.1	32	23.9	115	85.7	56	118.0	214	1.6	105	234.7	572	1,278.4
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

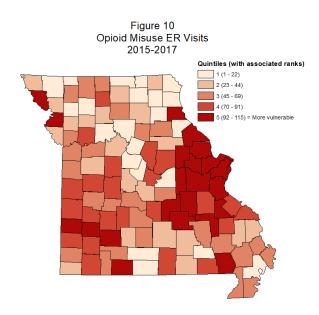
rigare of community ructors										
Phelps County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	13.6%	62	3rd							
Median Income	\$41,681	66	3rd							
Poverty	20.4%	87	4th							
Unemployment	6.3%	71	4th							
Uninsured	9.4%	30	2nd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

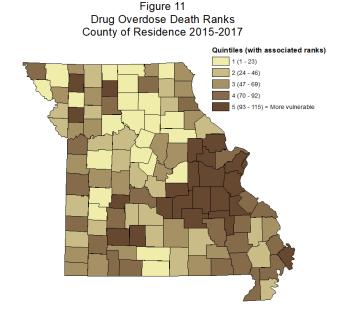


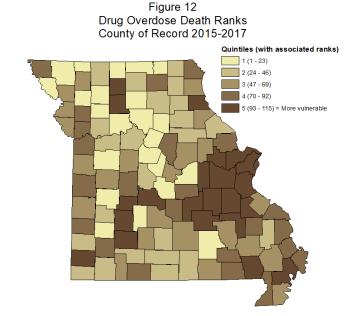
The 2015-2017 number of people who went to the emergency room due to opioid misuse 214, at a rate of 1.6 visits per 1,000 residents. This is rank 105 (5th quintile) for this indicator.

Phelps County ranks 103 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Phelps County drug overdose deaths was 31, at a rate of 23.1 deaths per 100,000 population.

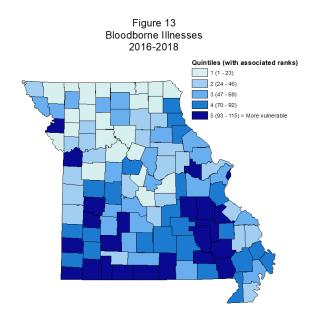
By county of record, the 2015-2017 number of Phelps County drug overdose deaths was 32, at a rate of 23.9 deaths per 100,000 population.

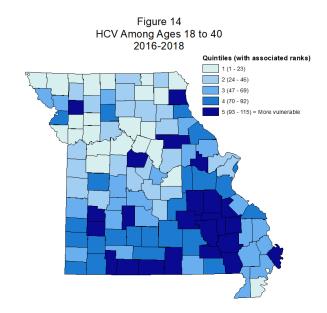




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Phelps County totaled 115 for 2016-2018, at a rate 85.7 cases per 100,000 residents. This is rank 73 (4th quintile) for bloodborne illnesses

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Phelps County, 56 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 118.0 cases per 100,000 residents. Phelps County ranks 70 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 39 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 100.0 cases per 100,000 residents.

Out of 100 acute and chronic HCV cases in Phelps County, 54 (54.0%) were male. For the cases in which race was identified, <5 (<1.4%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 31 (31.0%) of all 2016-2018 HCV cases in Phelps County.

AIDS = Acquired Immunodeficiency Syndrome

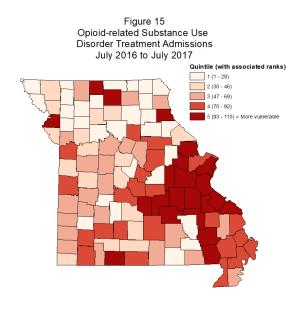
STD = Sexually Transmitted Disease

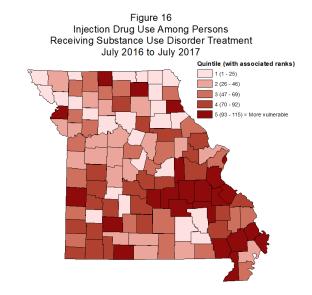
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 111, a rate of 248.1 persons per 100,000 population, placing this county in rank 113 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

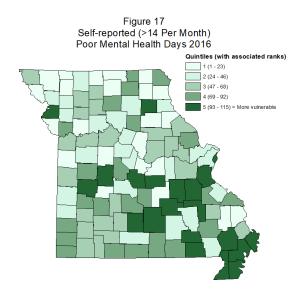
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 105, a rate of 234.7 persons per 100,000 population, placing this county in rank 110 (5th quintile). This indicator was only used in the bloodborne infection vulnerability assessment.

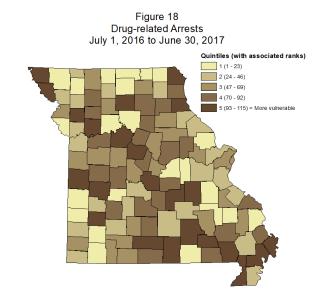




In 2016, 10.2 percent of Phelps County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Phelps County in rank 18 (1st quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 572 drug-related arrests occurred in Phelps County, at a rate of 1,278.4 arrests per 100,000 population. Phelps County ranks 102 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
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- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Phelps County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Polk County

Polk County is located in southwest Missouri and between years 2013 to 2017 had an estimated population of 31,347. Polk County ranks 37 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 5.8%. This was equal to the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 14.4%, which was slightly lower than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$44,805. The population distribution is as follows:

Figure 1: Polk County Population 2013-2017 5-Year Estimates

		Demograph	nics – Tota	l Population			
Sex	Count	Percent		Age Group	Count	Percent	
Male	15,257	48.7	0	– 9 years	3,864	12.3	
Female	16,090	51.3	10	0 – 14 years	2,068	6.6	
Race			1	5 – 19 years	2,732	8.7	
Black/African							
American alone	197	0.6	20	0 – 24 years	2,700	8.6	
White alone	29,949	95.5	2!	5 – 39 years	5,326	17.0	
Other	1,201	3.8	40	0 – 59 years	7,302	23.3	
Ethnicity			0	ver 60 years	7,355	23.5	
Hispanic	726	2.3		Median Age	37.5 years		
Non-Hispanic	30,621	97.7				_	

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡	
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Polk County ranked 94 (5th quintile) for vulnerability to opioid overdoses. Polk County ranked 87 (4th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

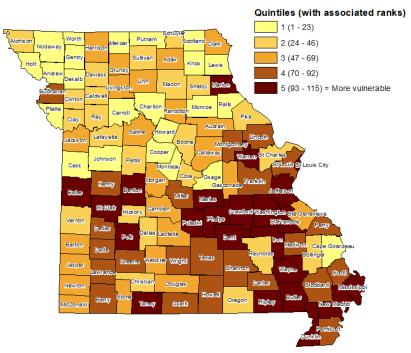


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Polk	21	22.3	23	24.4	84	0.9	21	66.1	291	915.3	16.0
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

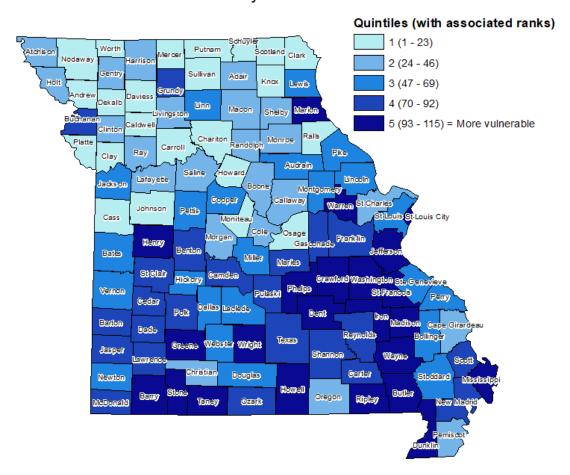


Figure 7: Individual Outcome Indicators

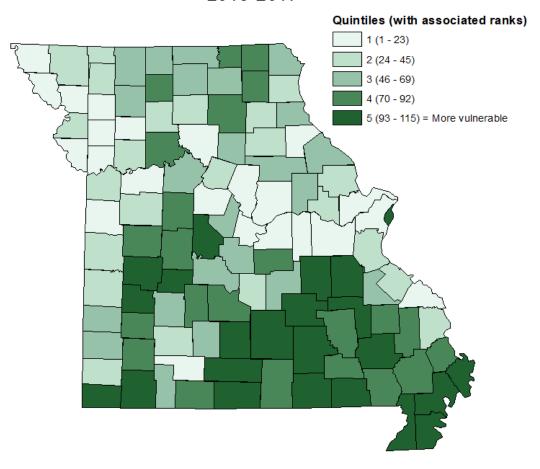
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Polk	21	22.3	23	24.4	75	79.5	30	106.2	84	0.9	44	138.4	291	915.3
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

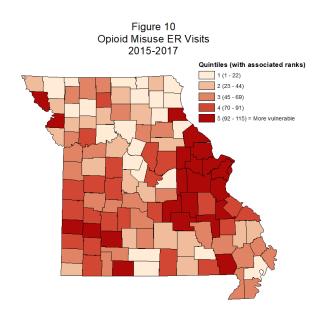
rigare of community ractors											
Polk County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	12.4%	49	3rd								
Median Income	\$44,805	45	2nd								
Poverty	14.4%	33	2nd								
Unemployment	5.8%	58	3rd								
Uninsured	13.0%	67	3rd								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

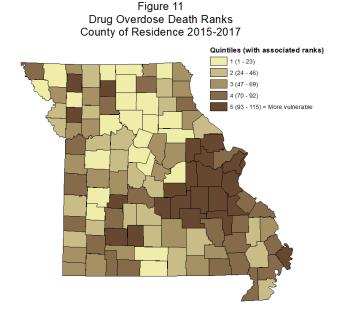


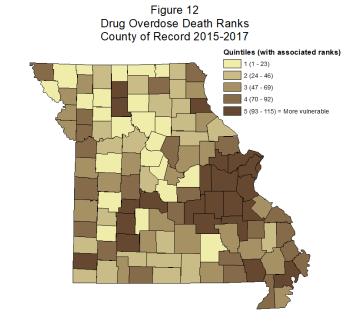
The 2015-2017 number of emergency room visits due to opioid misuse was 84, at a rate of 0.9 visits per 1,000 residents. This is rank 76 (4th quintile) for this indicator.

Polk County ranks 102 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Polk County drug overdose deaths was 21, at a rate of 22.3 deaths per 100,000 population.

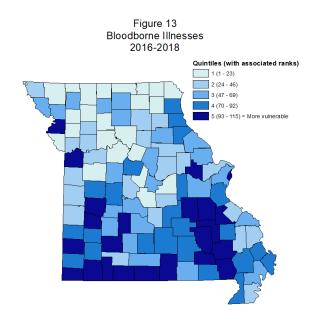
By county of record, the number of Polk County drug overdose deaths was 23, at a rate of 24.4 deaths per 100,000.

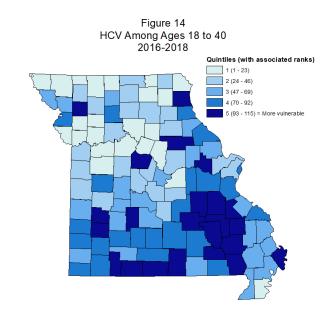




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Polk County totaled 75 for 2016-2018, at a rate of 79.5 cases per 100,000 residents. This is rank 69 (3rd quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Polk County, 30 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 106.2 cases per 100,000 residents. Polk County ranks 64 (3rd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 36 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 126.0 cases per 100,000 residents.

Out of 69 acute and chronic HCV cases in Polk County, 37 (53.6%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 43 (62.3%) of all 2016-2018 HCV cases in Polk County.

AIDS = Acquired Immunodeficiency Syndrome

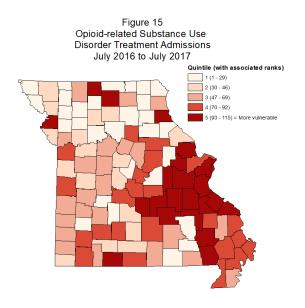
STD = Sexually Transmitted Disease

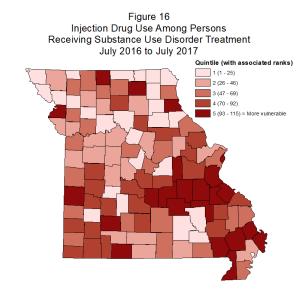
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 21, a rate of 66.1 persons per 100,000 population, placing this county in rank 69 (3rd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

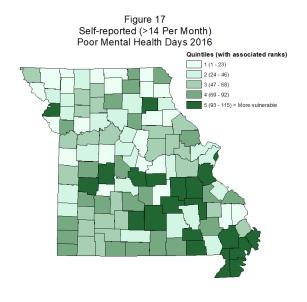
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 44, a rate of 138.4 persons per 100,000 population, placing this county in rank 85 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

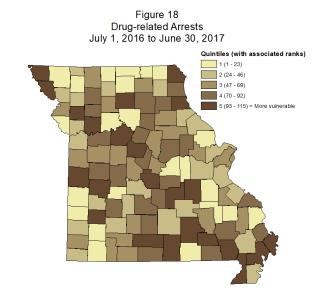




In 2016, 16.0 percent of Polk County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Polk County in rank 89 (4th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 291 drug-related arrests occurred in Polk County, at a rate of 915.3 arrests per 100,000 population. Polk County ranks 75 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Polk County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Pulaski County

Pulaski County is located in south central Missouri and between years 2013 to 2017 had an estimated population of 53,132. Pulaski County ranks 22 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 8.8%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 12.8%, which was lower than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$51,137. The population distribution is as follows:

Figure 1: Pulaski County Population 2013-2017 5-Year Estimates

	Demographics – Total Population											
Sex	Count	Age Group	Count	Percent								
Male	30,361	57.1	0 – 9 years	7,112	13.4							
Female	22,771	42.9	10 – 14 years	3,001	5.6							
Race			15 – 19 years	6,611	12.4							
Black/African												
American alone	6,620	12.5	20 – 24 years	7,185	13.5							
White alone	39,842	75.0	25 – 39 years	13,072	24.6							
Other	6,670	12.6	40 – 59 years	9,905	18.6							
Ethnicity			Over 60 years	6,246	11.8							
Hispanic	5,770	10.9	Median Age	27.6 years								
Non-Hispanic	47,362	89.1										

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	rigure 2. Comparison of mulcators for ivinssour vulnerability Assessments									
	Opioid Overdose	Both	Bloodborne Infection							
Outcomes nt x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡							
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days Opioid Misuse Emergency Room (ER) Visits		Hepatitis C Virus Among Ages 18 to 40							
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT							
ors		Median Income†‡								
Factors x 1)		Poverty†								
munity (Weight		Lack of a High School Education†								
Community (Weight		Unemployment†‡								
Con		Uninsured†								

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Pulaski County ranked 99 (5th quintile) for vulnerability to opioid overdoses. Pulaski County ranked 71 (4th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

•		
Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

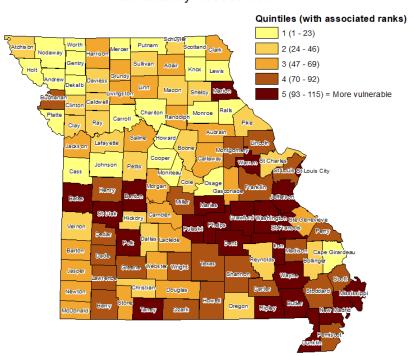


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Pulaski	39	24.7	29	18.4	158	1.0	84	161.4	506	972.0	15.5
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

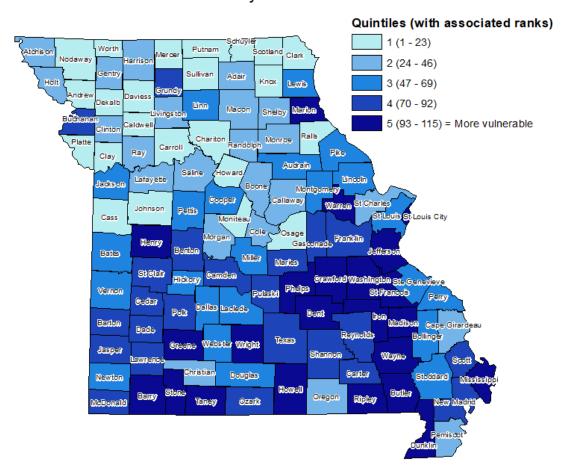


Figure 7: Individual Outcome Indicators

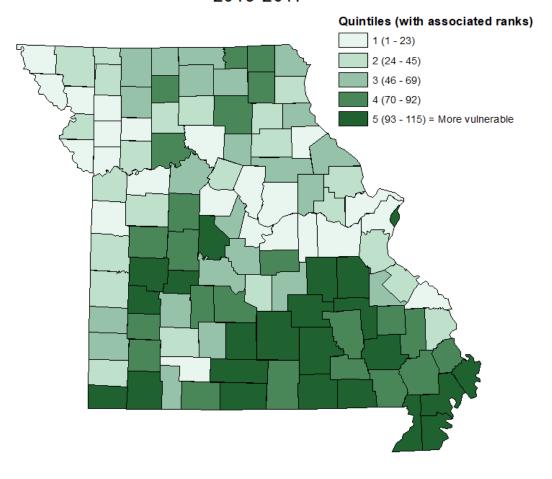
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Pulaski	39	24.7	29	18.4	98	62.1	39	50.8	158	1.0	77	147.9	506	972.0
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

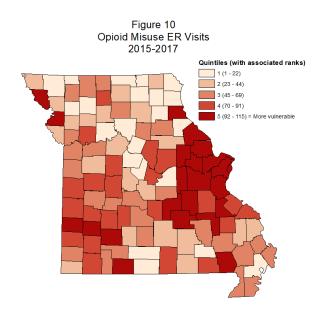
i igui e o.	Community	Tactors								
Pulaski County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	9.5%	18	1st							
Median Income	\$51,137	20	1st							
Poverty	12.8%	21	2nd							
Unemployment	8.8%	104	5th							
Uninsured	10.8%	43	2nd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

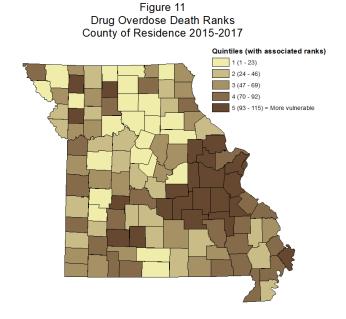


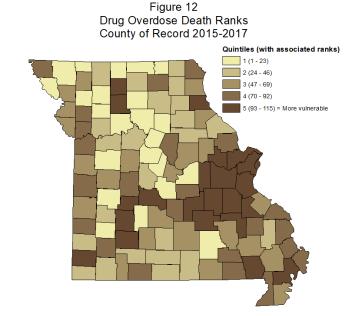
The 2015-2017 number of emergency room visits due to opioid misuse was 158, at a rate of 1.0 visits per 1,000 residents. This is rank 84 (4th quintile) for this indicator.

Pulaski County ranks 96 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Pulaski County drug overdose deaths was 39, at a rate of 24.7 deaths per 100,000 population.

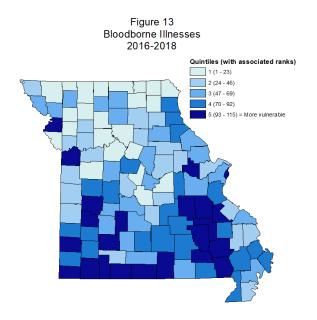
By county of record, the 2015-2017 number of Pulaski County drug overdose deaths was 29, at a rate of 18.4 deaths per 100,000 population.

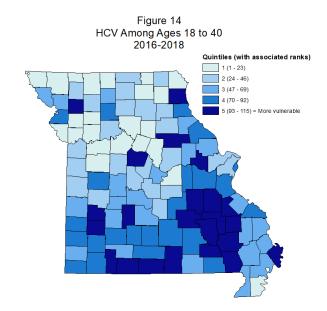




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Pulaski County totaled 98 for 2016-2018, at a rate of 62.1 cases per 100,000 residents. This is rank 46 (2nd quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Pulaski County, 39 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 50.8 cases per 100,000 residents. Pulaski County ranks 29 (2nd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 29 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 85.4 cases per 100,000 residents.

Out of 72 acute and chronic HCV cases, 33 (45.8%) were male. For the cases in which race was identified, <5 (<2.9%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 38 (52.8%) of all 2016-2018 HCV cases in Pulaski County.

AIDS = Acquired Immunodeficiency Syndrome

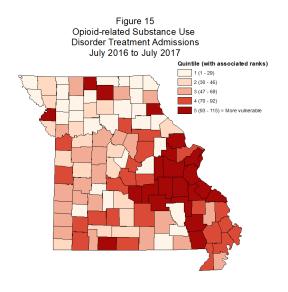
STD = Sexually Transmitted Disease

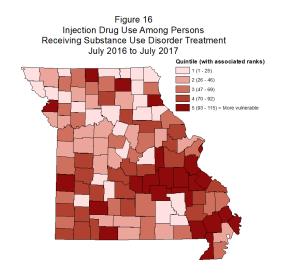
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 84, a rate of 161.4 persons per 100,000 population, placing this county in rank 107 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

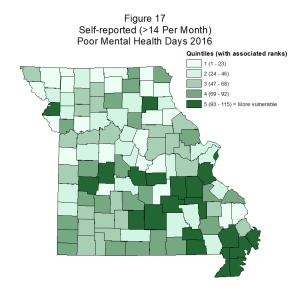
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 77, a rate of 147.9 persons per 100,000 population, placing this county in rank 94 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

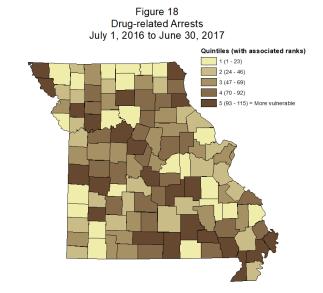




In 2016, 15.5 percent of Pulaski County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Pulaski County in rank 83 (4th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 506 drug-related arrests occurred in Pulaski County, at a rate of 972.0 arrests per 100,000 population. Pulaski County ranks 84 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments 2020.* Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Pulaski County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Ripley County

Ripley County is located in southeast Missouri along the Arkansas border and between years 2013 to 2017 had an estimated population of 13,807. Ripley County ranks 74 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 7.2%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 23.4%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$33,849. The population distribution is as follows:

Figure 1: Ripley County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	6,906	50.0		0 – 9 years	1,877	13.6					
Female	6,901	50.0		10 – 14 years	804	5.8					
Race				15 – 19 years	771	5.6					
Black/African											
American alone	32	0.2		20 – 24 years	726	5.3					
White alone	13,323	96.5		25 – 39 years	2,332	16.9					
Other	452	3.3		40 – 59 years	3,674	26.6					
Ethnicity				Over 60 years	3,623	26.2					
Hispanic	177	1.3		Median Age	42.5 years						
Non-Hispanic	13,630	98.7									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Ripley County ranked 107 (5th quintile) for vulnerability to opioid overdoses. Ripley County ranked 102 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

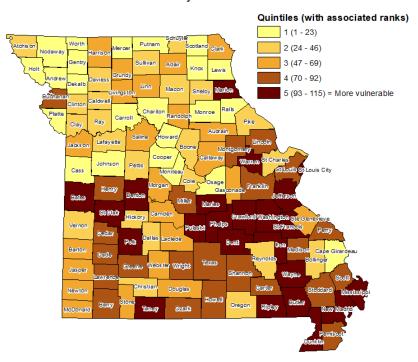


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Ripley	8	19.4	6	14.6	47	1.1	6	44.2	126	928.9	20.8
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

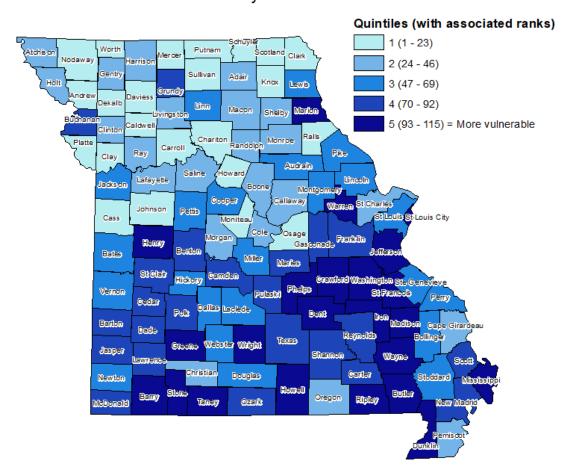


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

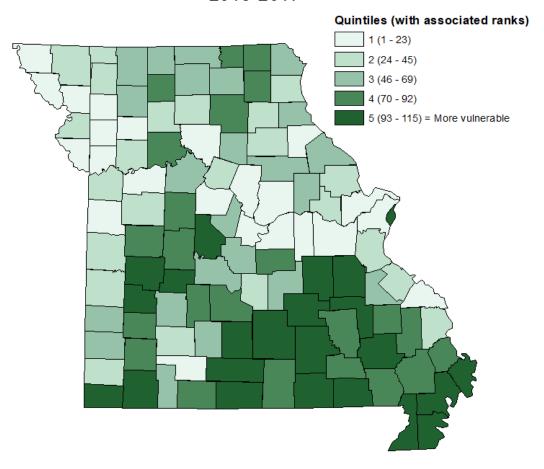
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Ripley	8	19.4	6	14.6	39	94.7	15	144.9	47	1.1	14	103.2	126	928.9
Missouri	3,783	20.7	3,867	21.1	17,612	96.3	5,527	99.9	25,959	4.3	6,672	109.1	43,232	707.2

Figure 8: Community Factors

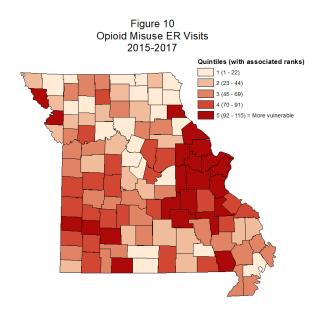
i igai e er cerimianity i actere											
Ripley County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	21.3%	105	5th								
Median Income	\$33,849	106	5th								
Poverty	23.4%	102	5th								
Unemployment	7.2%	85	4th								
Uninsured	14.5%	80	4th								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

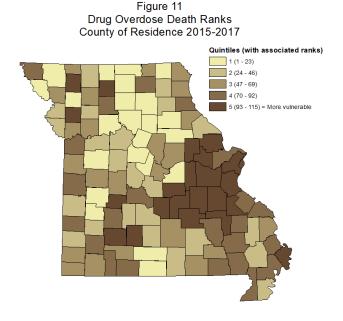


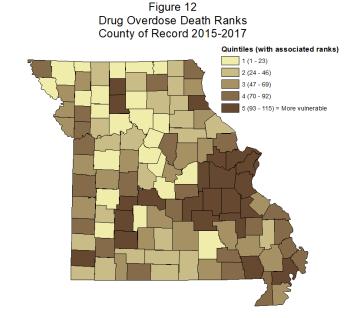
The 2015-2017 number of emergency room visits due to opioid misuse was 47, at a rate of 1.1 visits per 1,000 residents. This is rank 88 (4th quintile) for this indicator.

Ripley County ranks 75 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Ripley County drug overdose deaths was 8, at a rate of 19.4 deaths per 100,000 population.

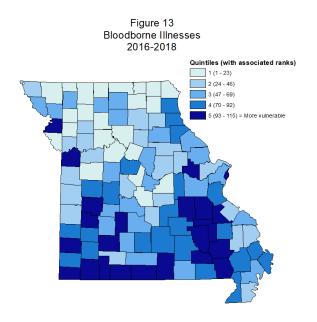
By county of record, the 2015-2017 number of Ripley County drug overdose deaths was 6, at a rate of 14.6 deaths per 100,000 population.

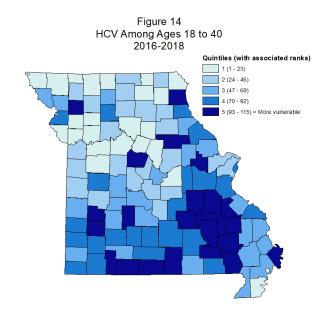




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for Ripley County totaled 39 for 2016-2018, at a rate of 94.7 cases per 100,000 residents. This is rank 84 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Ripley County, 15 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 144.9 cases per 100,000 residents. Ripley County ranks 81 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 21 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 153.3 cases per 100,000 residents.

Out of 38 acute and chronic HCV cases, 22 (57.9%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 10 (26.3%) of all 2016-2018 HCV cases in Ripley County.

AIDS = Acquired Immunodeficiency Syndrome

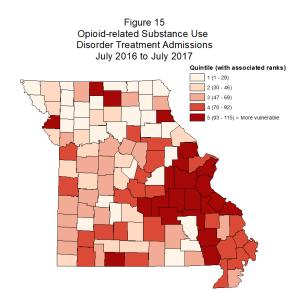
STD = Sexually Transmitted Disease

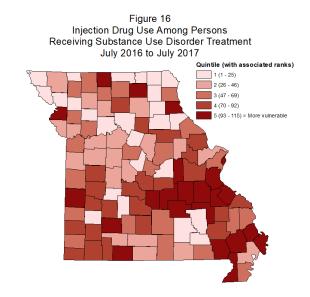
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 6, a rate of 44.2 persons per 100,000 population, placing this county in rank 50 (3rd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

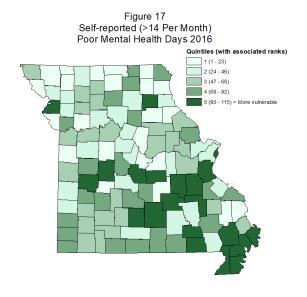
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 14, a rate of 103.2 persons per 100,000 population, placing this county in rank 65 (3rd quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

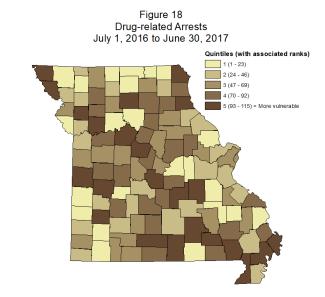




In 2016, 20.8 percent of Ripley County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Ripley County in rank 113 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 126 drug-related arrests occurred in Ripley County, at a rate of 928.9 arrests per 100,000 population. Ripley County ranks 79 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Ripley County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



St. Clair County

St. Clair County is located in western Missouri and between years 2013 to 2017 had an estimated population of 9,396. St. Clair County ranks 90 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 8.0%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 22.2%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$35,066. The population distribution is as follows:

Figure 1: St. Clair County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	4,744	50.5		0 – 9 years	826	8.8					
Female	4,652	49.5		10 – 14 years	597	6.4					
Race				15 – 19 years	483	5.1					
Black/African											
American alone	80	0.9		20 – 24 years	494	5.3					
White alone	8,941	95.2		25 – 39 years	1,331	14.2					
Other	375	4.0		40 – 59 years	2,387	25.4					
Ethnicity				Over 60 years	3,278	34.9					
Hispanic	98	1.0		Median Age	50.0 years						
Non-Hispanic	9,298	99.0									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days Opioid Misuse Emergency Room (ER) Visits		Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, St. Clair County ranked 97 (5th quintile) for vulnerability to opioid overdoses. St. Clair County ranked 84 (4th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

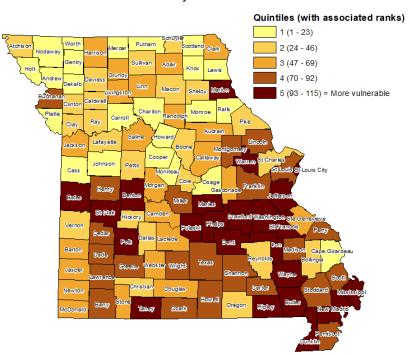


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray. Counts of 1 to 4 are suppressed due to confidentiality concerns.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
St. Clair	<5	3.6	0	0.0	20	0.7	6	64.1	142	1,516.8	19.2
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

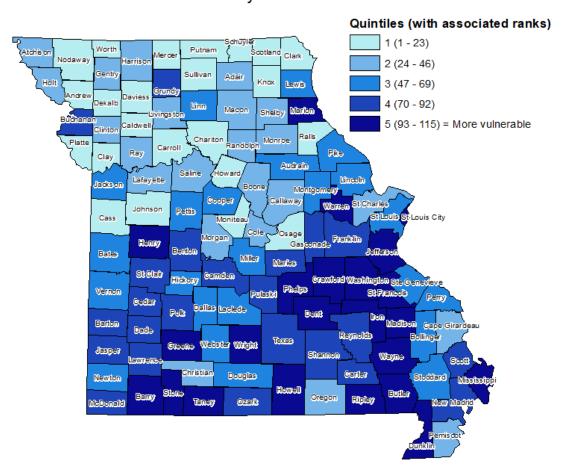


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray. Counts of 1 to 4 are suppressed due to confidentiality concerns.

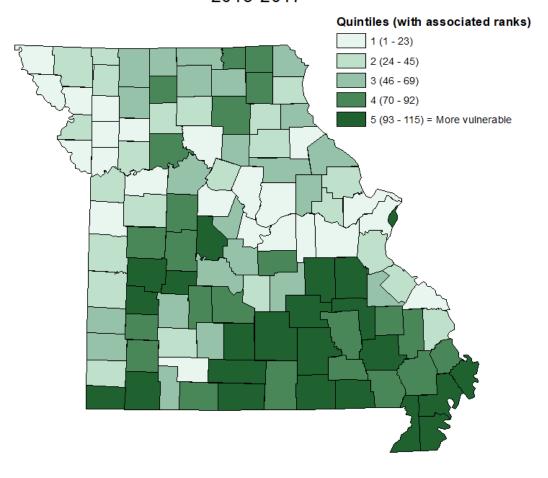
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
St. Clair	<5	3.6	0	0.0	29	103.3	<5	67.5	20	0.7	11	117.5	142	1,516.8
Missouri	3,783	20.7	3,867	21.1	17,612	96.3	5,527	99.9	25,959	4.3	6,672	109.1	43,232	707.2

Figure 8: Community Factors

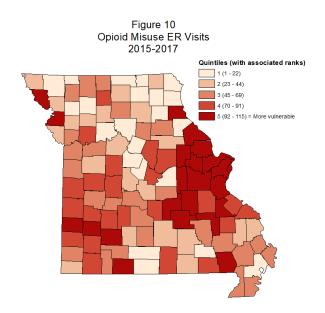
rigare or community ractors											
St. Clair County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	18.9%	96	5th								
Median Income	\$35,066	102	5th								
Poverty	22.2%	96	5th								
Unemployment	8.0%	95	5th								
Uninsured	16.1%	96	5th								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

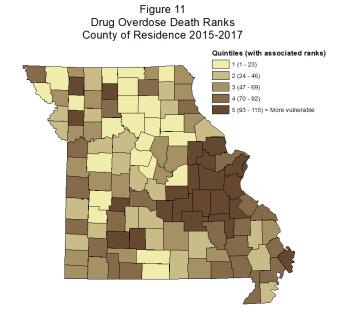


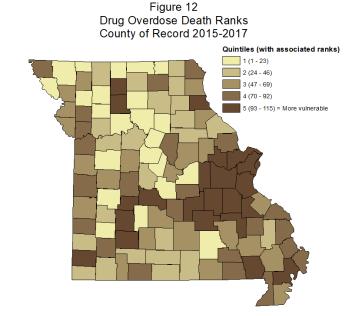
The 2015-2017 number of emergency room visits due to opioid misuse was 20, at a rate of 0.7 visits per 1,000 residents. This is rank 56 (3rd quintile) for this indicator.

St. Clair County rank 7 (1st quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of St. Clair County drug overdose deaths was 5, at a rate of 3.6 deaths per 100,000 population.

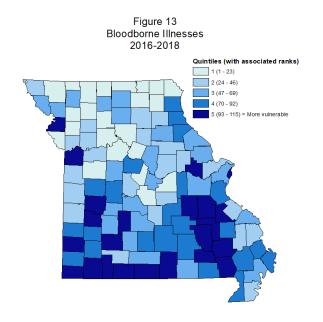
By county of record, the 2015-2017 number of St. Clair County drug overdose deaths was 0, at a rate of 0.0 deaths per 100,000 population.

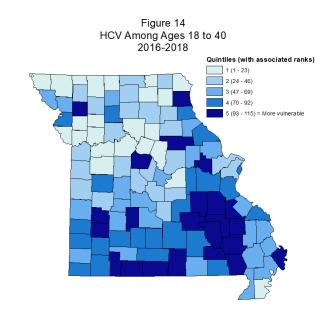




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) for St. Clair County totaled 29 for 2016-2018, at a rate of 103.3 cases per 100,000 residents. This is rank 94 (5th quintile) for this indicator.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In St. Clair County, 5 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 67.5 cases per 100,000 residents. St. Clair County ranks 41 (2nd quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 17 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 175.7 cases per 100,000 residents.

Out of 24 acute and chronic HCV cases in St. Clair County, 13 (54.2%) were male. For the cases in which race was identified, 0 (0.0%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 14 (58.3%) of all 2016-2018 HCV cases in St. Clair County.

AIDS = Acquired Immunodeficiency Syndrome

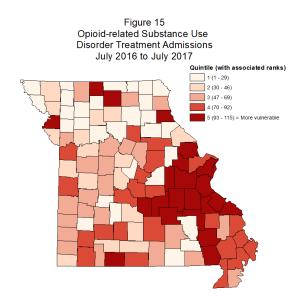
STD = Sexually Transmitted Disease

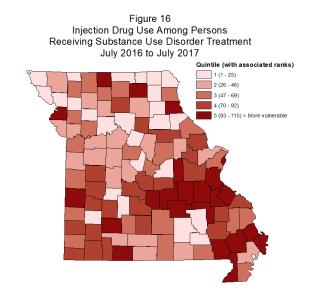
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 6, a rate of 64.1 persons per 100,000 population, placing this county in rank 67 (3rd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

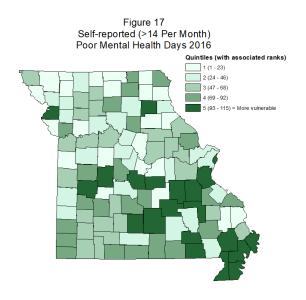
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 11, a rate of 117.5 persons per 100,000 population, placing this county in rank 73 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

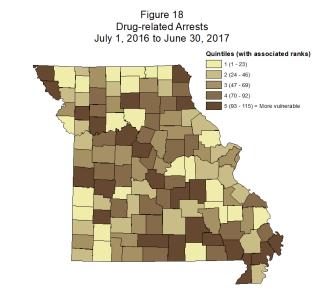




In 2016, 19.2 percent of St. Clair County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed St. Clair County in rank 106 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 142 drug-related arrests occurred in St. Clair County, at a rate of 1,516.8 arrests per 100,000 population. St. Clair County ranks 107 (5th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: St. Clair County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



St. Francois County

St. Francois County is located in southeast Missouri and between years 2013 to 2017 had an estimated population of 66,248. St. Francois County ranks 17 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.5%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 15.4%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$42,873. The population distribution is as follows:

Figure 1: St. Francois County Population 2013-2017 5-Year Estimates

Demographics – Total Population									
Sex	Count	Percent	Age Group	Count	Percent				
Male	35,790	54.0	0 – 9 years	7,886	11.9				
Female	30,458	46.0	10 – 14 years	3,791	5.7				
Race			15 – 19 years	3,721	5.6				
Black/African									
American alone	2,883	4.4	20 – 24 years	4,477	6.8				
White alone	61,724	93.2	25 – 39 years	13,850	20.9				
Other	1,641	2.5	40 – 59 years	17,880	27.0				
Ethnicity			Over 60 years	14,643	22.1				
Hispanic	993	1.5	Median Age	39.2 years					
Non-Hispanic	65,255	98.5							

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, St. Francois County ranked 110 (5th quintile) for vulnerability to opioid overdoses. St. Francois County ranked 112 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4
Missouri Opioid Overdose
Vulnerability Assessment

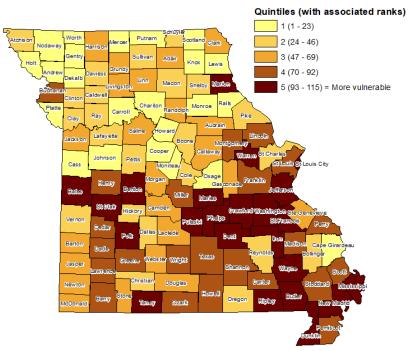


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
St. Francois	58	29.0	48	24.0	720	3.6	184	275.8	541	811.0	15.3
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

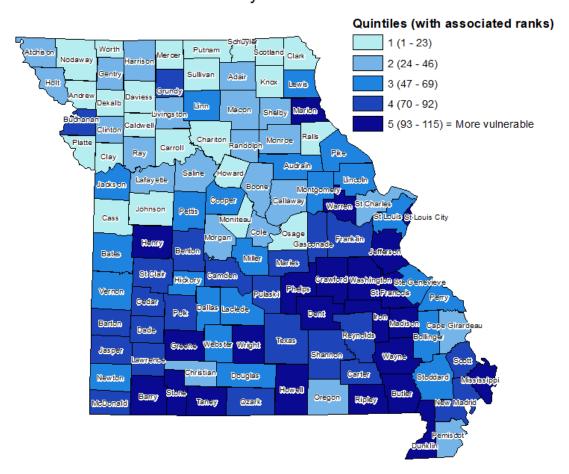


Figure 7: Individual Outcome Indicators

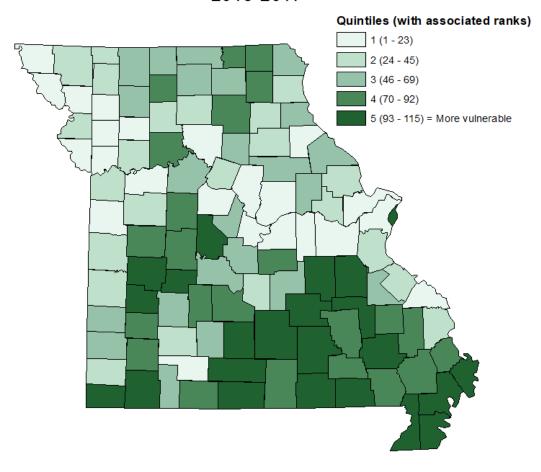
Bloodborne Infection Vulnerability Assessment Indicators														
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
St. Francois	58	29.0	48	24.0	277	138.6	191	305.7	720	3.6	205	307.3	541	811.0
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

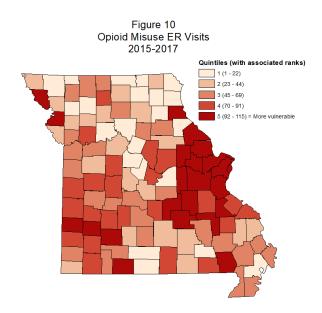
1.84.2 2. 20										
St. Francois County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	16.8%	89	4th							
Median Income	\$42,873	60	3rd							
Poverty	15.4%	40	2nd							
Unemployment	6.5%	74	4th							
Uninsured	11.6%	51	3rd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

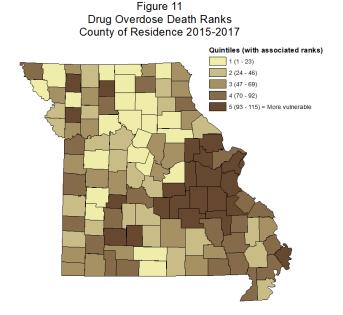


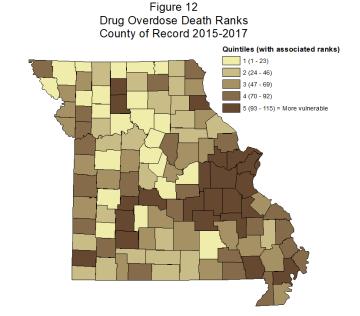
The 2015-2017 number of emergency room visits due to opioid misuse was 720, at a rate of 3.6 visits per 1,000 residents. This is rank 114 (5th quintile) for this indicator.

St. Francois County ranks 109 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of St. Francois County drug overdose deaths was 58, at a rate of 29.0 deaths per 100,000 population.

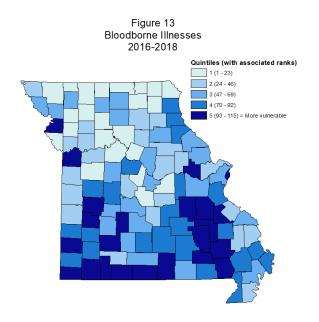
By county of record, the 2015-2017 number of St. Francois County drug overdose deaths was 48, at a rate of 24.0 deaths per 100,000 population.

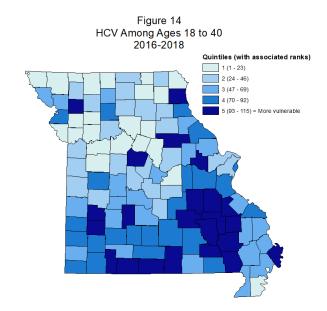




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in St. Francois County totaled 277 for 2016-2018, at a rate of 138.6 cases per 100,000 residents. This is rank 108 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In St. Francois County, 191 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 305.7 cases per 100,000 residents. St. Francois County ranks 112 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 188 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 288.4 cases per 100,000 residents.

Out of 395 acute and chronic HCV cases, 284 (71.9%) were male. For the cases in which race was identified, 27 (9.7%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 118 (29.9%) of all 2016-2018 HCV cases in St. Francois County.

AIDS = Acquired Immunodeficiency Syndrome

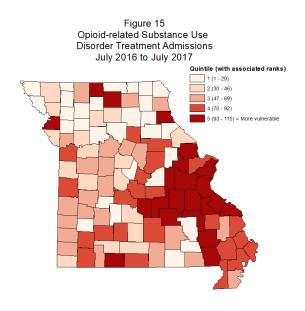
STD = Sexually Transmitted Disease

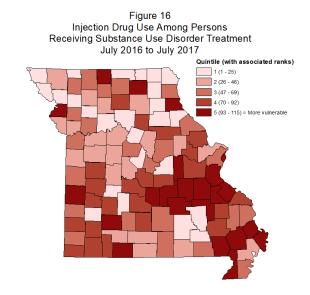
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 184, a rate of 275.8 persons per 100,000 population, placing this county in rank 114 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

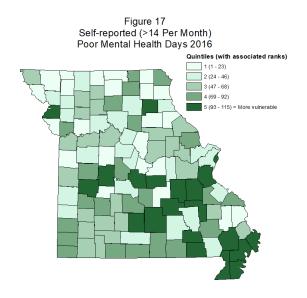
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 205, a rate of 307.3 persons per 100,000 population, placing this county in rank 114 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

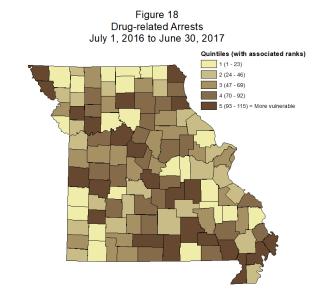




In 2016, 15.3 percent of St. Francois County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed St. Francois County in rank 80 (4th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 541 drug-related arrests occurred in St. Francois County, at a rate of 811.0 arrests per 100,000 population. St. Francois County ranks 64 (3rd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments 2020*. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: St. Francois County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



St. Louis City

St. Louis City is located on the eastern boundary of Missouri along the Mississippi River and between years 2013 to 2017 had an estimated population of 314,867. St. Louis City ranks 4 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 9.4%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 25.0%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$38,664. The population distribution is as follows:

Figure 1: St. Louis City Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	152,224	48.3		0 – 9 years	37,091	11.7					
Female	162,643	51.7		10 – 14 years	16,432	5.2					
Race				15 – 19 years	17,146	5.4					
Black/African											
American alone	149,895	47.6		20 – 24 years	24,057	7.6					
White alone	144,506	45.9		25 – 39 years	84,173	26.7					
Other	20,466	6.5		40 – 59 years	78,425	24.9					
Ethnicity				Over 60 years	57,543	18.3					
Hispanic	12,280	3.9		Median Age	35.2 years						
Non-Hispanic	302,587	96.1									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
utcomes x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡	
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indi		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
		Lack of a High School Education†	
mmunity (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, St. Louis City ranked 114 (5th quintile) for vulnerability to opioid overdoses. St. Louis City ranked 114 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

J		
Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

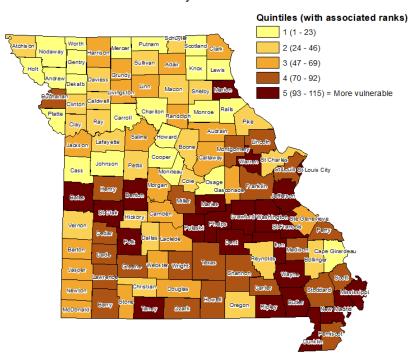


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
St. Louis City	517	55.3	717	76.6	4,906	5.2	1,516	491.2	2,373	768.9	17.5
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

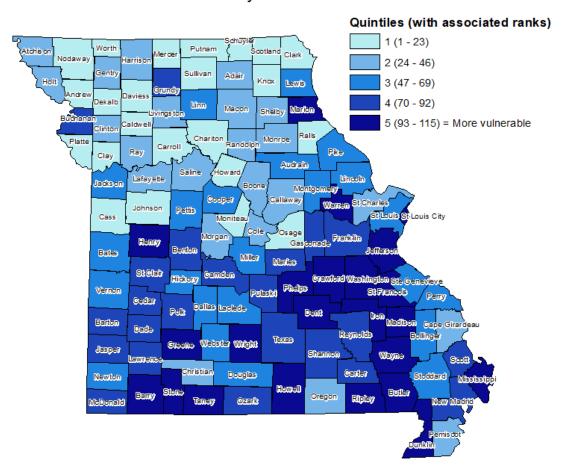


Figure 7: Individual Outcome Indicators

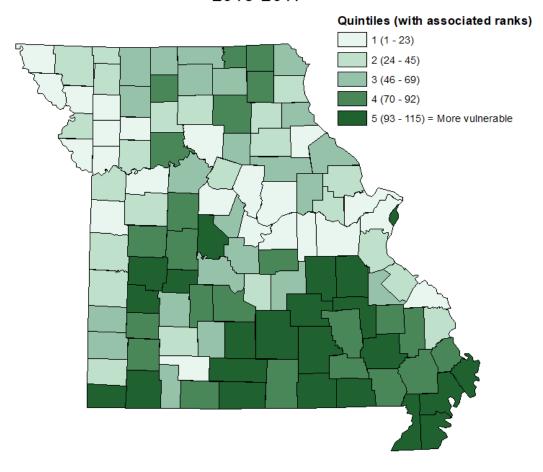
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
St. Louis City	517	55.3	717	76.6	2.364	252.6	573	160.8	4,906	5.2	859	278.3	2,373	768.9
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

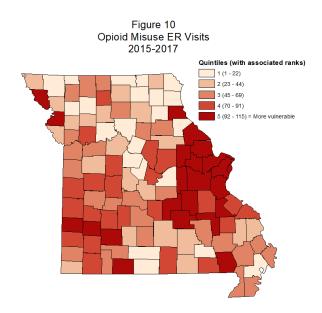
rigare of community ractors											
St. Louis City											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	14.3%	69	3rd								
Median Income	\$38,664	90	4th								
Poverty	25.0%	105	5th								
Unemployment	9.4%	107	5th								
Uninsured	13.2%	69	3rd								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

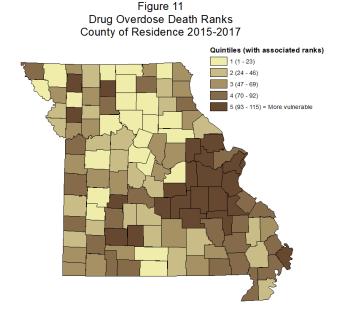


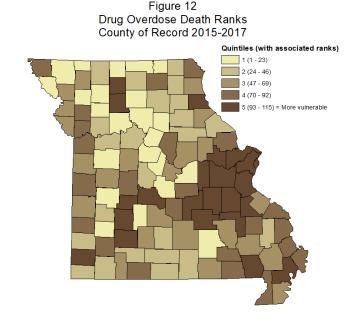
The 2015-2017 number of emergency room visits due to opioid misuse was 4,906, at a rate of 5.2 visits per 1,000 residents. This is rank 115 (5th quintile) for this indicator.

St. Louis City ranks 115 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of St. Louis City drug overdose deaths was 517, at a rate of 55.3 deaths per 100,000 population.

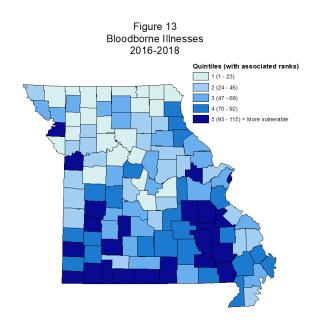
By county of record, the 2015-2017 number of St. Louis City drug overdose deaths was 717, at a rate of 76.6 deaths per 100,000 population.

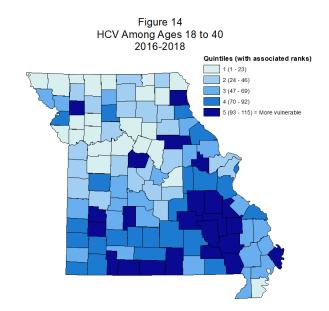




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in St. Louis City totaled 2,364 for 2016-2018, at a rate of 252.6 cases per 100,000 residents. This is rank 115 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In St. Louis City, 573 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 160.8 cases per 100,000 residents. St. Louis City ranks 87 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 1,031 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 355.4 cases per 100,000 residents.

Out of 1,834 acute and chronic HCV cases in St. Louis City, 1,245 (67.9%) were male. For the cases in which race was identified, 808 (68.4%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 653 (35.6%) of all 2016-2018 HCV cases in St. Louis City.

AIDS = Acquired Immunodeficiency Syndrome

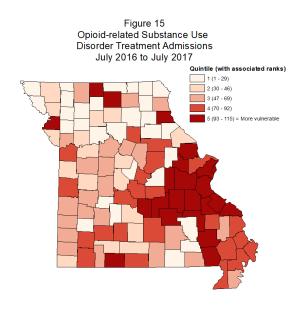
STD = Sexually Transmitted Disease

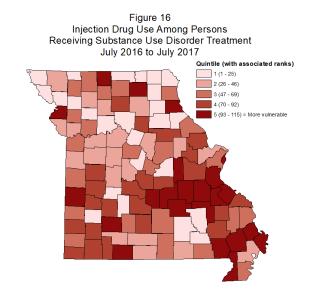
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 1,516, a rate of 491.2 persons per 100,000 population, placing this county in rank 115 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

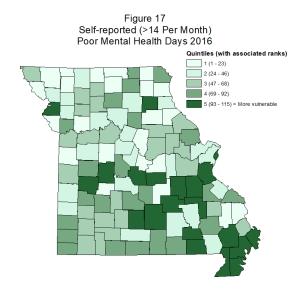
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 859, a rate of 278.3 persons per 100,000 population, placing this county in rank 112 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

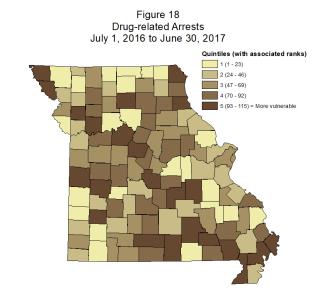




In 2016, 17.5 percent of St. Louis City adults 18 years of age or older reported more than 14 poor mental health days per month. This placed St. Louis City in rank 96 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 2,373 drug-related arrests occurred in St. Louis City, at a rate of 768.9 arrests per 100,000 population. St. Louis City ranks 61 (3rd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: St. Louis City. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Stone County

Stone County is located in southwest Missouri along the Arkansas border and between years 2013 to 2017 had an estimated population of 31,529. Stone County ranks 36 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 7.7%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 12.8%, which was lower than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$43,292. The population distribution is as follows:

Figure 1: Stone County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	15,426	48.9		0 – 9 years	2,356	7.4					
Female	16,103	51.1		10 – 14 years	1,902	6.0					
Race				15 – 19 years	1,720	5.5					
Black/African											
American alone	50	0.2		20 – 24 years	1,398	4.4					
White alone	30,423	96.5		25 – 39 years	3,678	11.7					
Other	1,056	3.3		40 – 59 years	8,322	26.4					
Ethnicity				Over 60 years	12,153	38.5					
Hispanic	662	2.1		Median Age	52.7 years						
Non-Hispanic	30,867	97.9									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Stone County ranked 67 (3rd quintile) for vulnerability to opioid overdoses. Stone County ranked 95 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

•		
Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

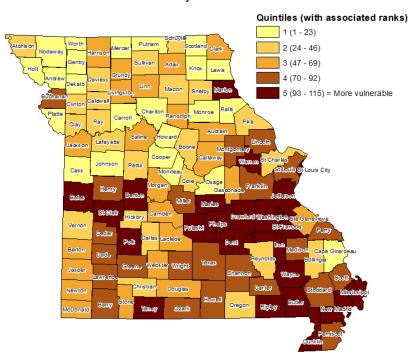


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Stone	17	18.1	13	13.9	75	0.8	19	59.9	239	754.0	14.0
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

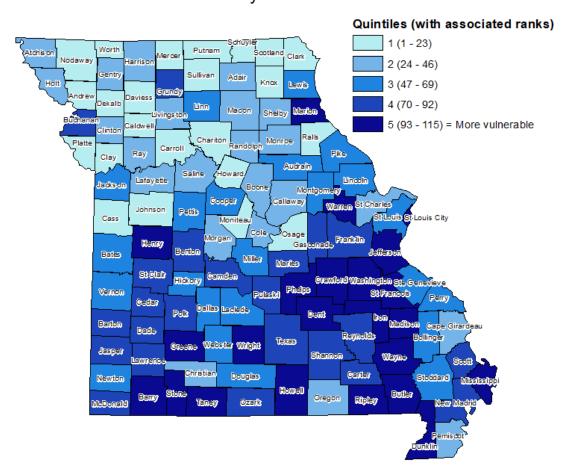


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

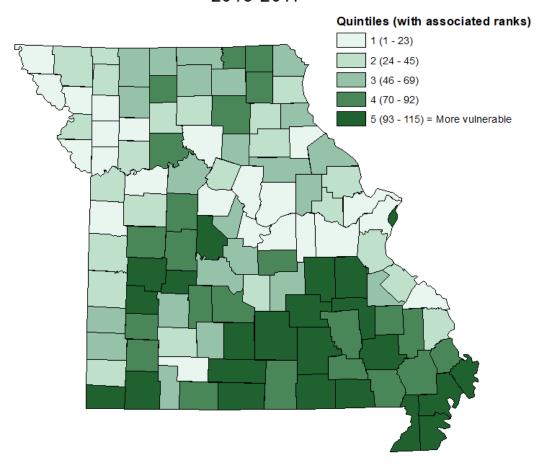
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Stone	17	18.1	13	13.9	127	135.6	68	375.3	75	0.8	36	113.6	239	754.0
Missouri	3,783	20.7	3,867	21.1	17,612	96.3	5,527	99.9	25,959	4.3	6,672	109.1	43,232	707.2

Figure 8: Community Factors

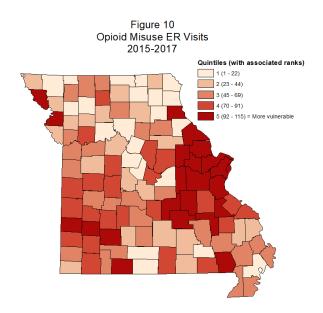
rigure of community ractors											
Stone County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	13.2%	58	3rd								
Median Income	\$43,292	53	3rd								
Poverty	12.8%	21	2nd								
Unemployment	7.7%	91	5th								
Uninsured	12.1%	57	3rd								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators



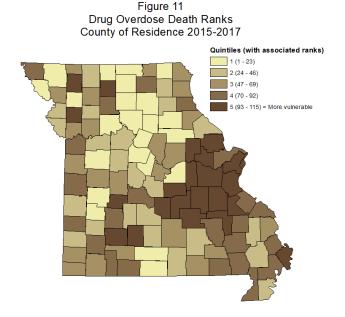
The 2015-2017 number of emergency room visits due to opioid misuse was 75, at a rate of 0.8 visits per 1,000 residents. This is rank 67 (3rd quintile) for this indicator.

Stone County ranks 69 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Stone County drug overdose deaths was 17, at a rate of 18.1 deaths per 100,000 population.

By county of record, the 2015-2017 number of Stone County drug overdose deaths was 13, at a rate of 13.9 deaths per 100,000 population.

Figure 12



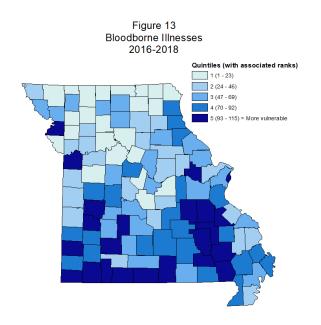
Drug Overdose Death Ranks
County of Record 2015-2017

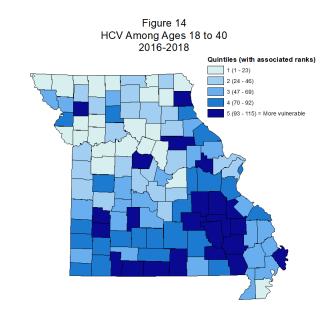
Quintiles (with associated ranks)

1 (1-23)
2 (24-46)
3 (47-69)
4 (70-92)
5 (93-115) = More vulnerable

New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Stone County totaled 127 for 2016-2018 at a rate of 135.6 cases per 100,000 residents. This is rank 106 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Stone County, 68 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 375.3 cases per 100,000 residents. Stone County ranks 115 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 46 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 133.9 cases per 100,000 residents.

Out of 118 acute and chronic HCV cases in Stone County, 67 (56.8%) were male. For the cases in which race was identified, <5 (<1.3%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 38 (32.2%) of all 2016-2018 HCV cases in Stone County.

AIDS = Acquired Immunodeficiency Syndrome

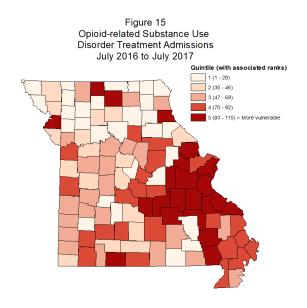
STD = Sexually Transmitted Disease

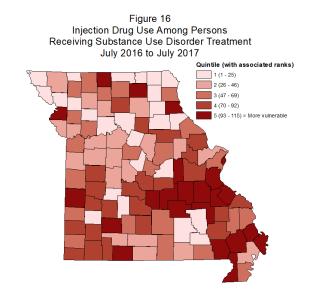
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 19, a rate of 59.9 persons per 100,000 population, placing this county in rank 63 (3rd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

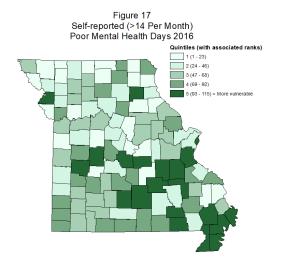
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 36, a rate of 113.6 persons per 100,000 population, placing this county in rank 70 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

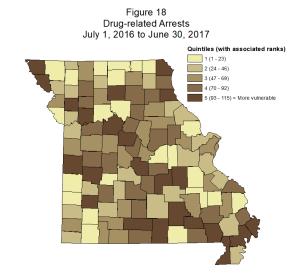




In 2016, 14.0 percent of Stone County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Stone County in rank 58 (3rd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 239 drug-related arrests occurred in Stone County, at a rate of 754.0 arrests per 100,000 population. Stone County ranks 57 (3rd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Stone County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Taney County

Taney County is located in southwest Missouri along the Arkansas border and between years 2013 to 2017 had an estimated population of 54,308. Taney County ranks 20 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.3%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 17.1%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$39,661. The population distribution is as follows:

Figure 1: Taney County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	26,360	48.5		0 – 9 years	6,063	11.2					
Female	27,948	51.5		10 – 14 years	3,437	6.3					
Race				15 – 19 years	3,560	6.6					
Black/African											
American alone	548	1.0		20 – 24 years	3,963	7.3					
White alone	50,238	92.5		25 – 39 years	9,084	16.7					
Other	3,522	6.5		40 – 59 years	13,477	24.8					
Ethnicity				Over 60 years	14,724	27.1					
Hispanic	3,019	5.6		Median Age	41.9 years						
Non-Hispanic	51,289	94.4									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Taney County ranked 103 (5th quintile) for vulnerability to opioid overdoses. Taney County ranked 110 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Jasper Newton

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Missouri Opioid Overdose
Vulnerability Assessment

Quintiles (with associated ranks)

1 (1 - 23)

1 (1 - 23)

2 (24 - 46)

3 (47 - 69)

4 (70 - 92)

Botton Callotton Caldwell

Clark

Jackson Larayete

Carroll

Jackson Petts

Johnson Petts

Johnson Petts

Sciling Award

Larayete

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Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Taney	32	19.4	29	17.6	258	1.6	115	207.7	439	793.1	14.7
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

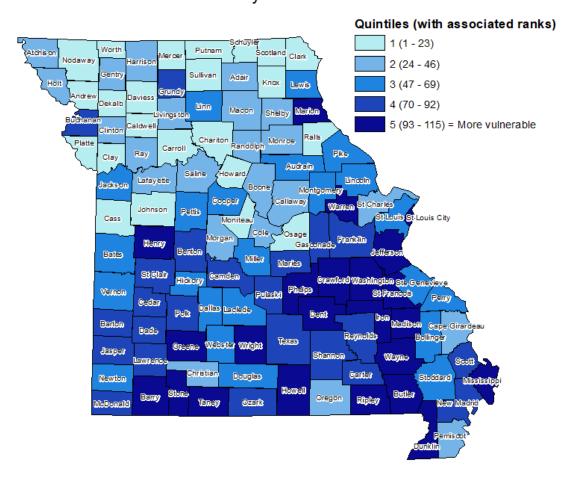


Figure 7: Individual Outcome Indicators

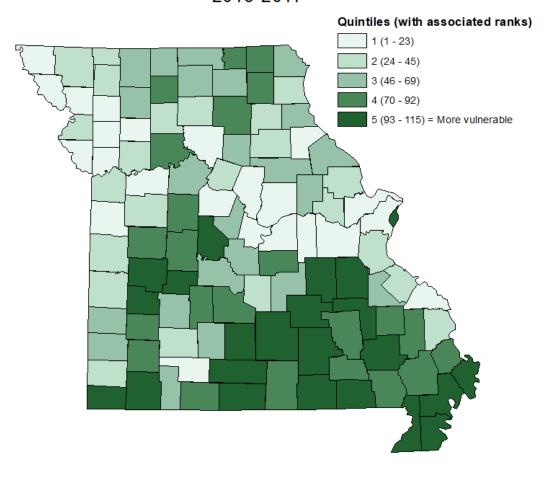
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Taney	32	19.4	29	17.6	256	155.5	128	277.6	258	1.6	185	334.2	439	793.1
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

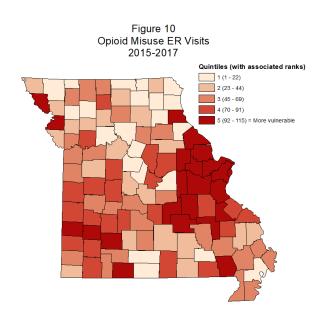
rigare or community ractors										
Taney County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	11.1%	28	2nd							
Median Income	\$39,661	84	4th							
Poverty	17.1%	58	3rd							
Unemployment	6.3%	71	4th							
Uninsured	18.7%	107	5th							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

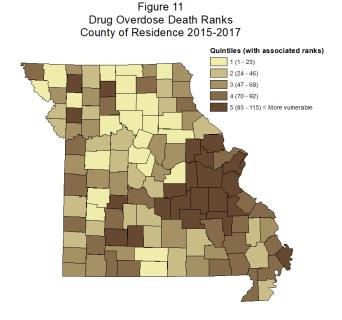


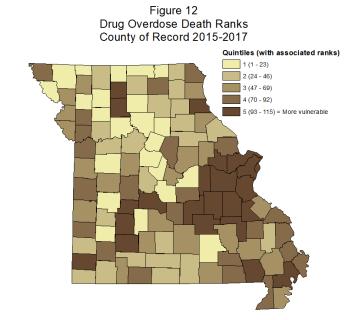
The 2015-2017 number of emergency room visits due to opioid misuse was 258, at a rate of 1.6 visits per 1,000 residents. This is rank 103 (5th quintile) for this indicator.

Taney County ranks 86 (4th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Taney County drug overdose deaths was 32, at a rate of 19.4 deaths per 100,000 population.

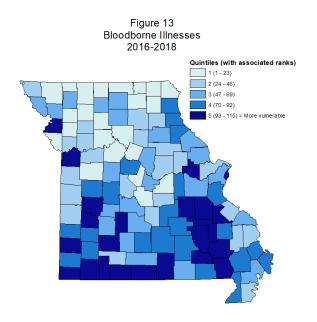
By county of record, the 2015-2017 number of Taney County drug overdose deaths was 29, at a rate of 17.6 deaths per 100,000 population.

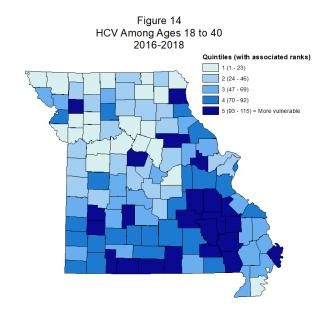




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Taney County totaled 256 for 2016-2018, at a rate of 155.5 cases per 100,000 residents. This is rank 111 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Taney County, 128 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 277.6 cases per 100,000 residents. Taney County ranks 111 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 103 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 199.4 cases per 100,000 residents.

Out of 248 acute and chronic HCV cases in Taney County, 129 (52.0%) were male. For the cases in which race was identified, 7 (3.5%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 50 (20.2%) of all 2016-2018 HCV cases in Taney County.

AIDS = Acquired Immunodeficiency Syndrome

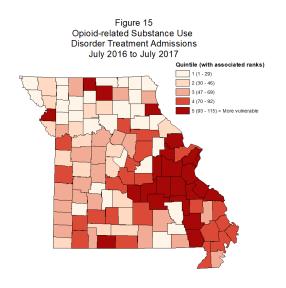
STD = Sexually Transmitted Disease

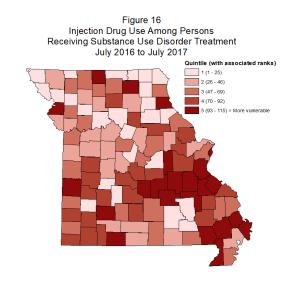
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 115, a rate of 207.7 persons per 100,000 population, placing this county in rank 110 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

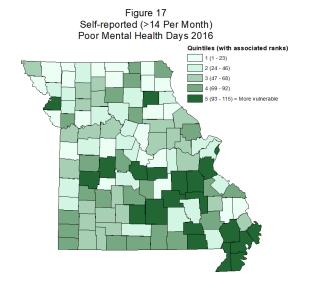
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 185, a rate of 334.2 persons per 100,000 population, placing this county in rank 115 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

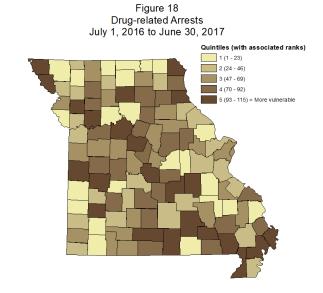




In 2016, 14.7 percent of Taney County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Taney County in rank 73 (4th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 439 drug-related arrests occurred in Taney County, a rate of 793.1 arrests per 100,000 population. Taney County ranks 62 (3rd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
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- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Taney County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Warren County

Warren County is located in eastern Missouri and between years 2013 to 2017 had an estimated population of 33,554. Warren County ranks 34 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 6.1%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 12.8%, which was lower than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$56,193. The population distribution is as follows:

Figure 1: Warren County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	16,773	50.0		0 – 9 years	4,530	13.5					
Female	16,781	50.0		10 – 14 years	2,219	6.6					
Race				15 – 19 years	1,951	5.8					
Black/African											
American alone	779	2.3		20 – 24 years	1,758	5.2					
White alone	31,209	93.0		25 – 39 years	6,047	18.0					
Other	1,566	4.7		40 – 59 years	9,008	26.8					
Ethnicity				Over 60 years	8,041	24.0					
Hispanic	1,080	3.2		Median Age	40.9 years						
Non-Hispanic	32,474	96.8									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
Outcomes ht x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Cor		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Warren County ranked 93 (5th quintile) for vulnerability to opioid overdoses. Warren County ranked 101 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

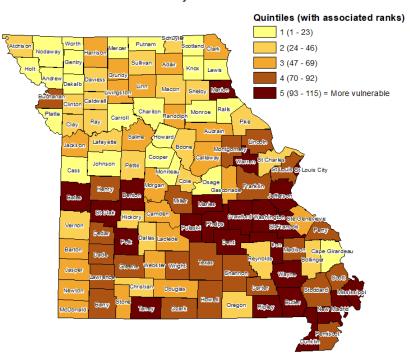


Figure 5: Individual Outcome Indicators

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Warren	26	25.6	20	19.7	232	2.3	45	130.9	293	852.4	13.3
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

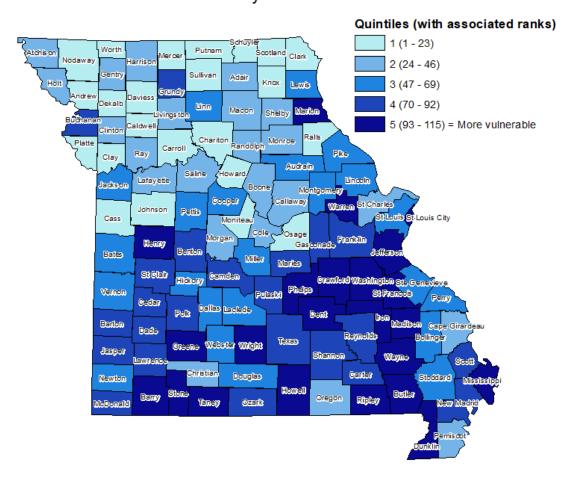


Figure 7: Individual Outcome Indicators

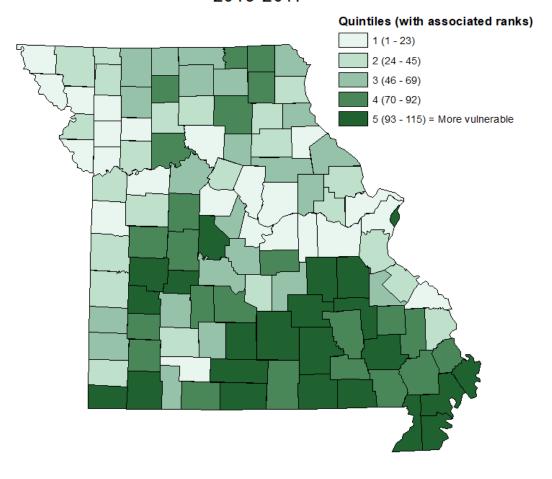
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Warren	26	25.6	20	19.7	105	103.3	49	183.6	232	2.3	50	145.5	293	852.4
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

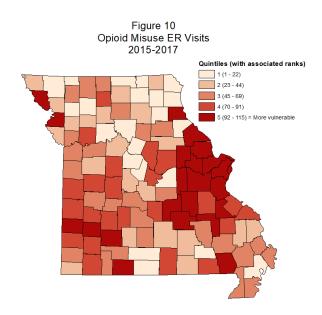
i igui e o.	rigule 8. Community ractors									
Warren County										
ACS Data 2013-2017 Rate Rank Quintile										
Lack of a High School Education	12.1%	45	2nd							
Median Income	\$56,193	11	1st							
Poverty	12.8%	21	2nd							
Unemployment	6.1%	67	3rd							
Uninsured	9.6%	34	2nd							

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

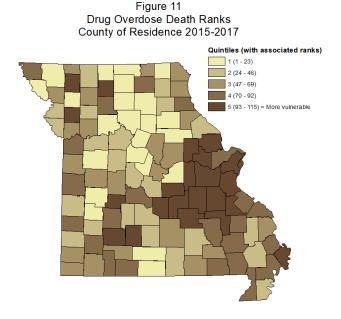


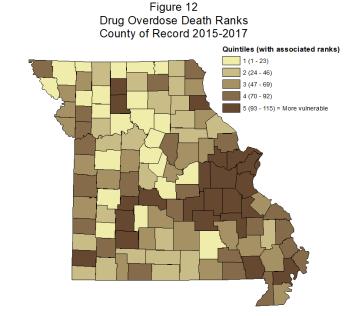
The 2015-2017 number of emergency room visits due to opioid misuse was 232, at a rate of 2.3 visits per 1,000 residents. This is rank 111 (5th quintile) for this indicator.

Warren County ranked 100 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Warren County drug overdose deaths was 26, at a rate of 25.6 deaths per 100,000 population.

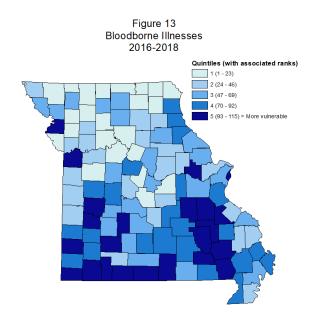
By county of record, the 2015-2017 number of Warren County drug overdose deaths was 20, at a rate of 19.7 deaths per 100,000 population.

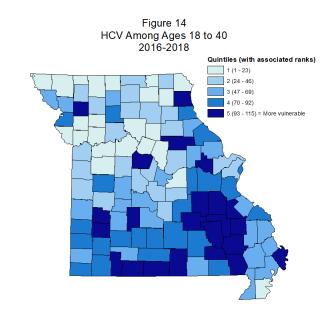




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Warren County totaled 105 for 2016-2018, at a rate of 103.3 cases per 100,000 residents. This is rank 93 (5th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Warren County, 49 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 183.6 cases per 100,000 residents. Warren County ranks 95 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 47 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 137.3 cases per 100,000 residents.

Out of 100 acute and chronic HCV cases in Warren County, 51 (51.0%) were male. For the cases in which race was identified, <5 (<4.2%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 52 (52.0%) of all 2016-2018 HCV cases in Warren County.

AIDS = Acquired Immunodeficiency Syndrome

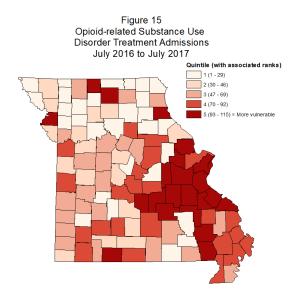
STD = Sexually Transmitted Disease

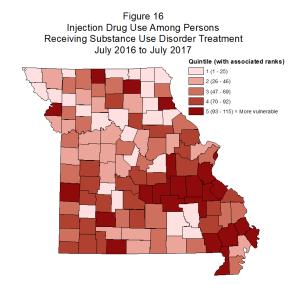
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 45, a rate of 130.9 persons per 100,000 population, placing this county in rank 99 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

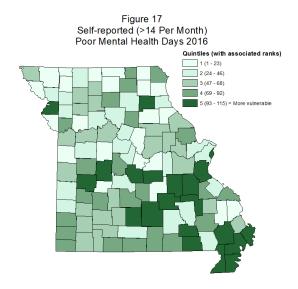
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 50, a rate of 145.5 persons per 100,000 population, placing this county in rank 91 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

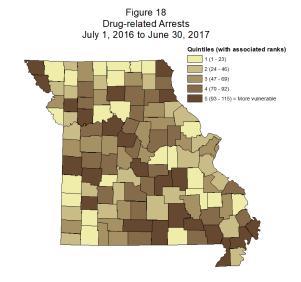




In 2016, 13.3 percent of Warren County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Warren County in rank 50 (3rd quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 293 drug-related arrests occurred in Warren County, at a rate of 852.4 arrests per 100,000 population. Warren County ranks 69 (3rd quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
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Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Warren County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Washington County

Washington County is located in eastern Missouri and between years 2013 to 2017 had an estimated population of 24,968. Washington County ranks 45 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 9.9%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 20.2%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$37,810. The population distribution is as follows:

Figure 1: Washington County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	12,855	51.5		0 – 9 years	3,038	12.1					
Female	12,113	48.5		10 – 14 years	7.0						
Race				15 – 19 years	1,481	5.9					
Black/African											
American alone	594	2.4		20 – 24 years	1,456	5.8					
White alone	23,725	95.0		25 – 39 years	4,583	18.4					
Other	649	2.6		40 – 59 years	7,174	28.7					
Ethnicity				Over 60 years	5,493	22.0					
Hispanic	320	1.3		Median Age	40.6 years						
Non-Hispanic	24,648	98.7									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
tcomes (3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Outco (Weight x 3)	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
ors		Median Income†‡	
Factors x 1)		Poverty†	
munity (Weight		Lack of a High School Education†	
mmunity (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Washington County ranked 108 (5th quintile) for vulnerability to opioid overdoses. Washington County ranked 104 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

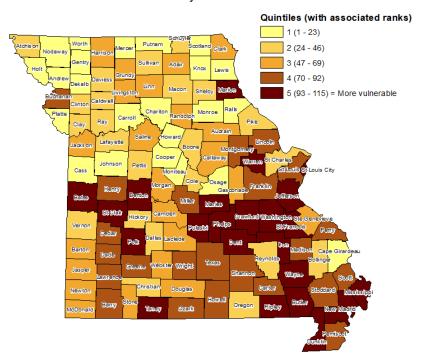


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

	Opioid Overdose Vulnerability Assessment Indicators										
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Washington	21	28.1	17	22.8	89	1.2	40	159.9	44	175.8	20.1
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

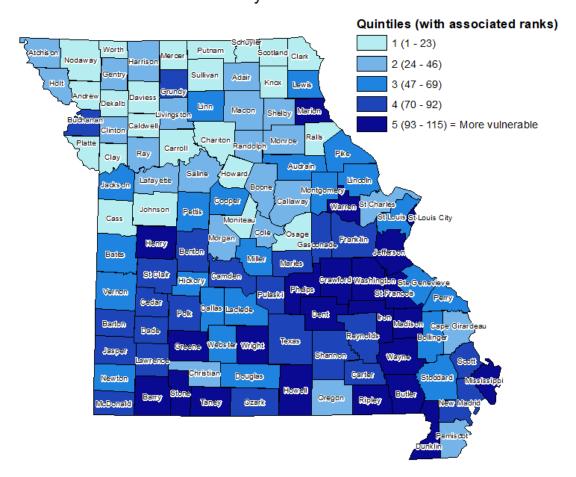


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray.

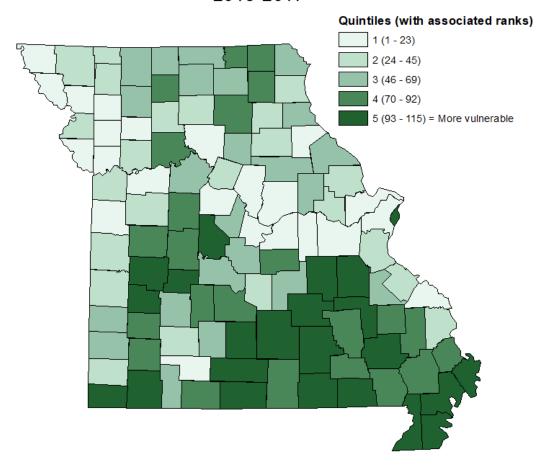
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
Washington	21	28.1	17	22.8	86	115.2	39	194.2	89	1.2	38	151.9	44	175.8
Missouri	3,783	20.7	3,867	21.1	17,612	96.3	5,527	99.9	25,959	4.3	6,672	109.1	43,232	707.2

Figure 8: Community Factors

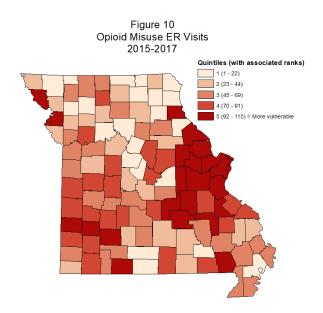
Tigal C 0.	community	1 400013									
Washington County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	23.0%	108	5th								
Median Income	\$37,810	93	5th								
Poverty	20.2%	85	4th								
Unemployment	9.9%	111	5th								
Uninsured	14.5%	81	4th								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9
Community Factors
2013-2017



Selected Individual Outcome Indicators

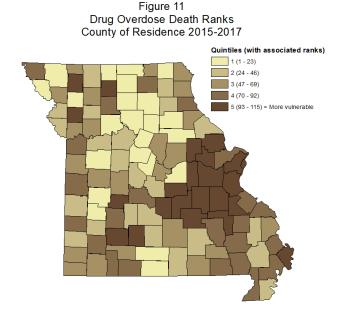


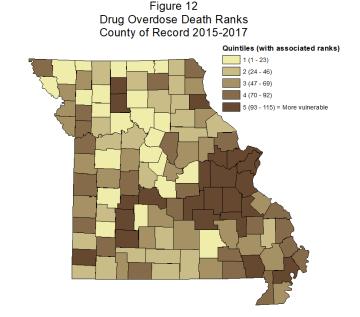
The 2015-2017 number of emergency room visits due to opioid misuse was 89, at a rate of 1.2 visits per 1,000 residents. This is rank 91 (4th quintile) for this indicator.

Washington County ranks 107 (5th quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Washington County drug overdose deaths was 21, at a rate of 28.1 deaths per 100,000 population.

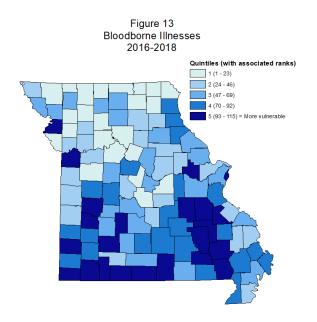
By county of record, the 2015-2017 number of Washington County drug overdose deaths was 17, at a rate of 22.8 deaths per 100,000 population.

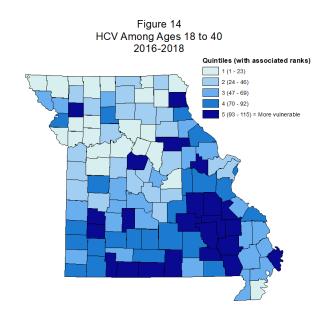




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Washington County totaled 86 for 2016-2018, at a rate of 115.2 cases per 100,000 residents. This is rank 99 (5th quintile) for this bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Washington County, 39 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 194.2 cases per 100,000 residents. Washington County ranks 99 (5th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 43 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 163.8 cases per 100,000 residents.

Out of 87 acute and chronic HCV cases, 51 (58.6%) were male. For the cases in which race was identified, <5 (<7.4%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 33 (37.9%) of all 2016-2018 HCV cases in Washington County.

AIDS = Acquired Immunodeficiency Syndrome

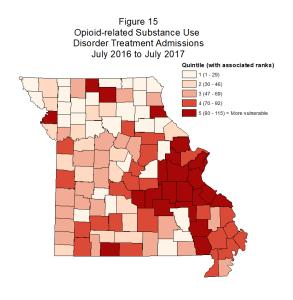
STD = Sexually Transmitted Disease

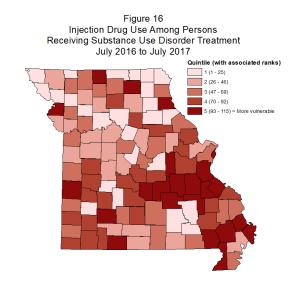
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 40, a rate of 159.9 persons per 100,000 population, placing this county in rank 106 (5th quintile). This indicator was used only in the opioid overdose vulnerability assessment.

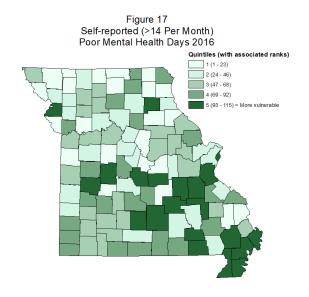
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 38, a rate of 151.9 persons per 100,000 population, placing this county in rank 95 (5th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

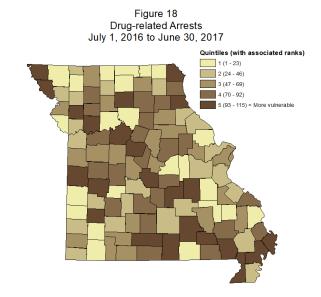




In 2016, 20.1 percent of Washington County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Washington County in rank 111 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 44 drug-related arrests occurred in Washington County, at a rate of 175.8 arrests per 100,000 population. Washington County ranks 3 (1st quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
- Drug Overdose Deaths: Missouri DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD). Calculated from 2015-2017 death certificate data and 2015-2017 population data. Rates reported per 100,000 population.
- Drug-related Arrests: Missouri Department of Mental Health. Calculated from a data file of FY 2017 arrests (as of December 2018) provided by the Division of Behavioral Health on December 3, 2019, and population data from 2017. Rates reported per 100,000 population.
- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments 2020.* Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Race: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B02001 Race. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Washington County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.



Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data



Wright County

Wright County is located in southern Missouri and between years 2013 to 2017 had an estimated population of 18,304. Wright County ranks 59 in population size among Missouri's 114 counties plus the independent city of St. Louis. The 2013-2017 unemployment rate in the county was 8.4%. This was higher than the statewide unemployment rate of 5.8%. In 2013-2017, the poverty rate was 25.0%, which was higher than the statewide poverty rate of 14.6%. The 2013-2017 median income of the county was \$31,290. The population distribution is as follows:

Figure 1: Wright County Population 2013-2017 5-Year Estimates

	Demographics – Total Population										
Sex	Count	Percent		Age Group	Count	Percent					
Male	9,012	49.2		0 – 9 years	2,408	13.2					
Female	9,292	50.8		10 – 14 years	1,325	7.2					
Race			15 – 19 years 1,19		1,199	6.6					
Black/African American alone	109	0.6		20 – 24 years	971	5.3					
White alone	17,643	96.4		25 – 39 years	2,697	14.7					
Other	552	3.0		40 – 59 years	4,917	26.9					
Ethnicity				Over 60 years	4,787	26.2					
Hispanic	313	1.7		Median Age	42.0 years						
Non-Hispanic	17,991	98.3									

The Department of Health and Senior Services conducted two vulnerability assessments of Missouri counties. The indicators used for these assessments are included in the table below.

Figure 2: Comparison of Indicators for Missouri Vulnerability Assessments

	Opioid Overdose	Both	Bloodborne Infection
utcomes x 3)	Opioid-related Substance Use Disorder Treatment (SUDT) Admissions	Drug Overdose Deaths†‡¥	Bloodborne Illnesses (HIV, Acute and Chronic Hepatitis B, and Acute and Chronic Hepatitis C)†‡
Individual Out (Weight x	Self-reported Frequent (>14 Per Month) Poor Mental Health Days	Opioid Misuse Emergency Room (ER) Visits	Hepatitis C Virus Among Ages 18 to 40
Indiv		Drug-related Arrests	Injection Drug Use (IDU) Among Persons Receiving SUDT
actors 1)		Median Income†‡	
Fact × 1)		Poverty†	
ımunity (Weight		Lack of a High School Education†	
Community (Weight		Unemployment†‡	
Con		Uninsured†	

[†] These indicators were considered for the National Vulnerability Assessment.

[‡] Analysis completed for the National Vulnerability Assessment found these indicators to be more strongly associated with acute hepatitis C virus infection, which was considered a proxy for unsafe injection drug use.

[¥] Drug Overdose Deaths = (0.5 weight x county of residence rate) + (0.5 weight x county of record rate).

Figure 3: Distribution of Final Ranks

Figure 3 shows the distribution of the final ranks among five quintiles. In the Missouri vulnerability assessments, Wright County ranked 88 (4th quintile) for vulnerability to opioid overdoses. Wright County ranked 98 (5th quintile) for vulnerability to bloodborne infections. In the Missouri assessments, counties in the fifth quintile are considered to be more vulnerable. Please note that Figure 3 shows the distribution when no ties occur. When a tie occurs on a break point, a shift in the distribution may occur.

Final Ranks	Quintile Points	Vulnerability Level
1-23	1	
24-46	2	
47-69	3	
70-92	4	
93-115	5	More vulnerable

Figure 4 Missouri Opioid Overdose Vulnerability Assessment

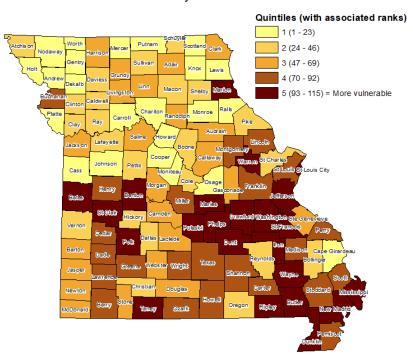


Figure 5: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable and are shaded in gray. Counts of 1 to 4 are suppressed due to confidentiality concerns.

Opioid Overdose Vulnerability Assessment Indicators											
County	Count: Drug Overdose (OD) Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: Opioid- related SUDT	Rate: Opioid- related SUDT	Count: Drug-related Arrests	Rate: Drug-related Arrests	Rate: Self-reported Frequent Poor Mental Health Days
Wright	6	10.9	<5	7.3	37	0.7	<5	27.3	176	960.1	18.1
Missouri	3,784	20.7	3,868	21.1	25,889	1.4	6,754	110.5	43,232	707.2	13.7

Figure 6
Missouri Bloodborne Infection
Vulnerability Assessment

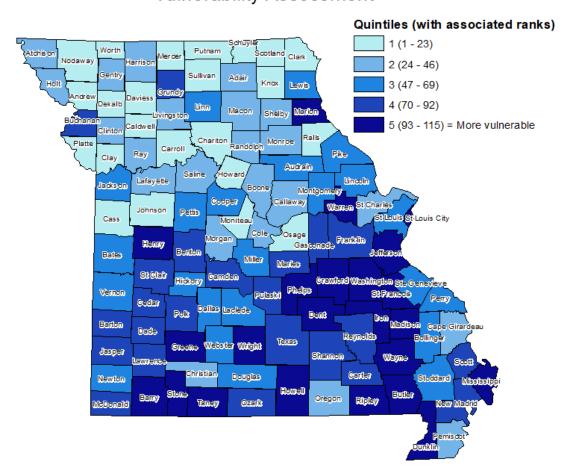


Figure 7: Individual Outcome Indicators

NOTE: Rates based on counts of 1 to 19 are considered unreliable. Counts of 1 to 4 are suppressed due to confidentiality concerns.

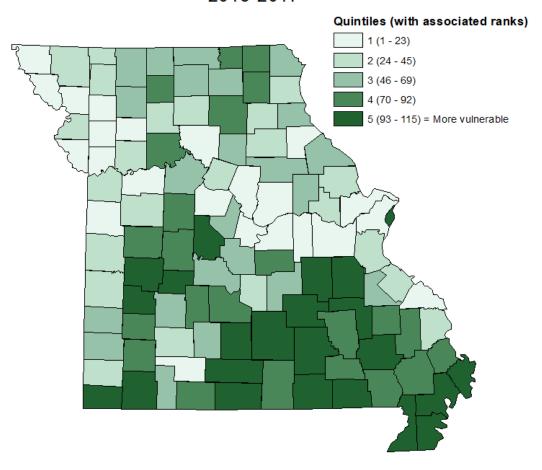
	Bloodborne Infection Vulnerability Assessment Indicators													
County	Count: Drug OD Deaths by Residence County	Rate: Drug OD Deaths by Residence County	Count: Drug OD Deaths by County of Record	Rate: Drug OD Deaths by County of Record	Count: HIV, HBV, HCV	Rate: HIV, HBV, HCV	Count: HCV Among Ages 18 to 40	Rate: HCV Among Ages 18 to 40	Count: Opioid Misuse ER Visits	Rate: Opioid Misuse ER Visits	Count: IDU Among SUDT Recipients	Rate: IDU Among SUDT Recipients	Count: Drug-related Arrests	Rate: Drug-related Arrests
NA/wimba														
Wright	6	10.9	<5	<7.3	54	98.4	17	127.9	37	0.7	23	125.5	176	960.1
Missouri	3,784	20.7	3,868	21.1	17,628	96.4	5,532	100.0	25,889	1.4	6,958	113.8	43,232	707.2

Figure 8: Community Factors

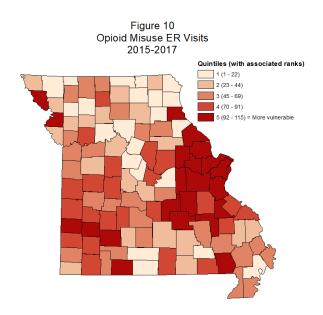
rigare o.	rigare of community ractors										
Wright County											
ACS Data 2013-2017 Rate Rank Quintile											
Lack of a High School Education	19.6%	99	5th								
Median Income	\$31,290	114	5th								
Poverty	25.0%	105	5th								
Unemployment	8.4%	101	5th								
Uninsured	19.1%	108	5th								

Social and economic factors within a community may impact available resources and influence vulnerability to opioid overdoses and bloodborne infections. Many of these indicators are interrelated. Data are from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS).

Figure 9 Community Factors 2013-2017



Selected Individual Outcome Indicators

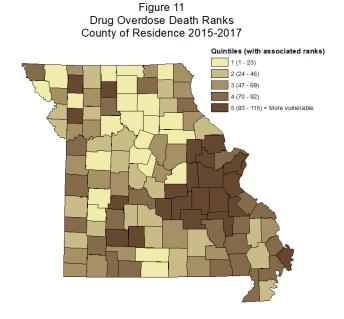


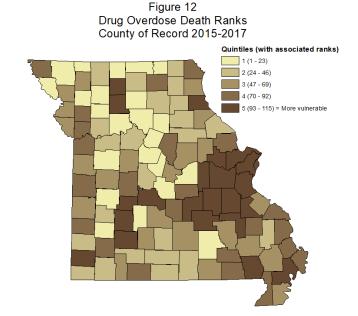
The 2015-2017 number of emergency room visits due to opioid misuse was 37, at a rate of 0.7 visits per 1,000 residents. This is rank 49 (3rd quintile) for this indicator.

Wright County ranks 37 (2nd quintile) on the 2015-2017 combined drug overdose death rate indicator. This indicator considers both the decedent's county of residence and the decedent's county of record, which can be considered a proxy for the location of death.

By county of residence, the 2015-2017 number of Wright County drug overdose deaths was 6, at a rate of 10.9 deaths per 100,000 population.

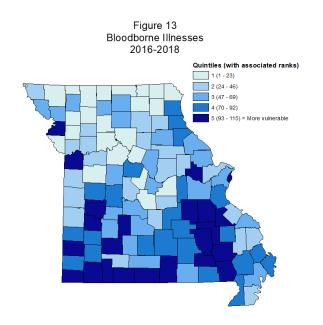
By county of record, the 2015-2017 number of Wright County drug overdose deaths was 5, at a rate of 7.3 deaths per 100,000 population.

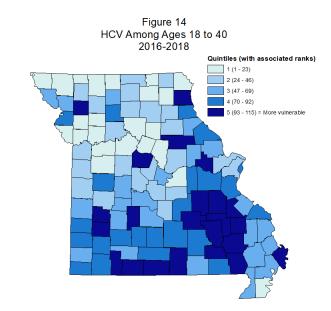




New cases of reported bloodborne illnesses (acute and chronic hepatitis B virus (HBV), acute and chronic hepatitis C virus (HCV), and human immunodeficiency virus (HIV)) in Wright County totaled 54 for 2016-2018, at a rate of 98.4 cases per 100,000 residents. This is rank 88 (4th quintile) for bloodborne illnesses.

Per the Centers for Disease Control and Prevention (CDC), "adults under 40 have the highest rate of new infections, largely because of the opioid crisis." In Wright County, 17 new cases of acute and chronic HCV were identified among the 18- to 40-year-old age group in 2016-2018, for a rate of 127.9 cases per 100,000 residents. Wright County ranks 74 (4th quintile) for this indicator.





Acute and chronic hepatitis C also significantly impact the 41- to 65-year-old age group. In 2016-2018, there were 32 new cases of acute and chronic hepatitis C identified in this age group, at a rate of 179.9 cases per 100,000 residents.

Out of 53 acute and chronic HCV cases, 29 (54.7%) were male. For the cases in which race was identified, <5 (<3.3%) were African American. However, please interpret race data for HCV with caution, as race was not identified in 23 (43.4%) of all 2016-2018 HCV cases in Wright County.

AIDS = Acquired Immunodeficiency Syndrome

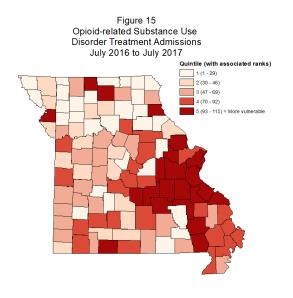
STD = Sexually Transmitted Disease

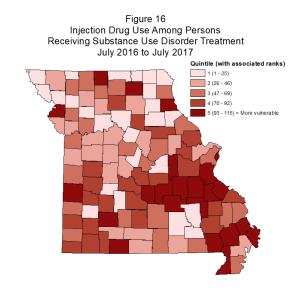
TB = Tuberculosis

[†] Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. CDC Estimates Nearly 2.4 Million Americans Living with Hepatitis C. (November 6, 2018). Accessed October 8, 2019, from https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates-press-release.html.

The number of people who received opioid-related substance use disorder treatment from July 1, 2016 to June 30, 2017 was 5, a rate of 27.3 persons per 100,000 population, placing this county in rank 33 (2nd quintile). This indicator was used only in the opioid overdose vulnerability assessment.

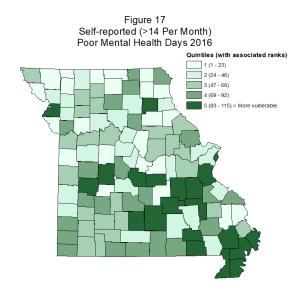
The number of persons receiving substance use disorder treatment and prior to treatment reported injecting drugs was 23, a rate of 125.5 persons per 100,000 population, placing this county in rank 81 (4th quintile). This indicator was used only in the bloodborne infection vulnerability assessment.

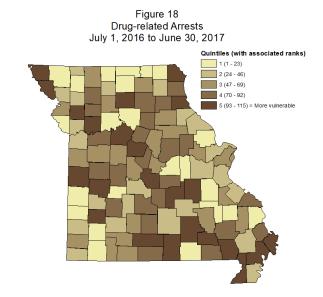




In 2016, 18.1 percent of Wright County adults 18 years of age or older reported more than 14 poor mental health days per month. This placed Wright County in rank 100 (5th quintile) for this indicator in the opioid overdose vulnerability assessment.

Between July 1, 2016 and June 30, 2017, a total of 176 drug-related arrests occurred in Wright County, at a rate of 960.1 arrests per 100,000 population. Wright County ranks 81 (4th quintile) for this indicator, which was used in both assessments.





References

- Bloodborne Illnesses (HIV, HBV, HCV): Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics (BRDI). Calculated using 2017 hepatitis B and C data from the WebSurv (Missouri's Communicable Disease Registry) dataset, 2017 HIV and AIDS (stage 4 HIV) data from the eHARS (enhanced HIV/AIDS Reporting System) dataset, and 2017 population data. Rates reported per 100,000 population.
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- Hepatitis C Virus (HCV) Among Ages 18 to 40: Missouri DHSS, BRDI. Calculated from 2017 WebSurv data and 2017 population data. Rates reported per 100,000 population.
- Injection Drug Use (IDU) Among Persons Receiving Substance Use Disorder Treatment (SUDT): Missouri Department of Mental Health. Calculated from FY 2017 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Lack of a High School Education: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1501 Education Attainment. Accessed March 12, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Age: U.S Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01002 Median Age by Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Median Income: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1903 Median Income in the Past 12 Months (in 2017 Inflation-adjusted Dollars). Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Missouri Vulnerability Assessments: Missouri DHSS, BRDI. *Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments* 2020. Available at https://health.mo.gov/data/opioids/assessments.php.
- National Vulnerability Assessment: Van Handel, M, et al. County-level Vulnerability Assessment for Rapid Dissemination of HIV or HCV Infections Among Persons Who Inject Drugs, United States. J Acquir Immune Defic Syndrom. November 1, 2016; 73(3): 323-331. Accessed February 6, 2019 from the CDC Stacks website at https://stacks.cdc.gov/view/cdc/46647.
- Opioid Misuse Emergency Room Visits: Missouri DHSS, BHCADD. Calculated from 2015-2017 Patient Abstract System data and 2015-2017 population data. Rates reported per 1,000 population.
- Opioid-related Substance Use Disorder Treatment Admissions: Missouri Department of Mental Health. Calculated from FY 2017
 Alcohol and Drug Use Treatment Data and 2017 population data. Rates reported per 100,000 population. Accessed March 9, 2020, from https://seow.dmh.mo.gov/TREATMENTADA/TREATMENTADAIndicators.aspx?PATH=Indicators&SID=NEW.
- Population Age: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Ethnicity: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates. B03003 Hispanic or Latino Origin. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
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- Population Sex: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S0101 Age and Sex. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Population Totals: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. B01003 Total Population. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Poverty: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S1701 Poverty Status in the Past 12 Months. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Self-reported Frequent (<14 Per Month) Poor Mental Health Days: Missouri DHSS, Bureau of Epidemiology and Vital Statistics. 2016 Missouri County-Level Study data. Rates reported as a percentage of the adult population.
- Unemployment: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2301 Employment Status. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.
- Uninsured: U.S. Census Bureau. 2013-2017 American Community Survey 5-Year Estimates. S2701 Selected Characteristics of Health Insurance Coverage in the United States. Accessed March 10, 2020, from American FactFinder at https://factfinder.census.gov/.

Suggested Citation:

Missouri Department of Health and Senior Services, Bureau of Reportable Disease Informatics. Missouri Opioid Overdose and Bloodborne Infection Vulnerability Assessments Supplementary Data: Wright County. Available at https://health.mo.gov/data/opioids/assessments.php. Accessed Month Day, Year.